

AMERICAN VETERINARY REVIEW.

EDITED AND PUBLISHED MONTHLY BY

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WITH THE COLLABORATION OF

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And several others.

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AMERICAN VETERINARY REVIEW.

SEPTEMBER, 1905.

EDITORIAL.

EUROPEAN CHRONICLES.

BRUNOY, FRANCE, July 15, 1905.

TUBERCULOSIS CURED BY A NEW SERUM.—Some time ago I was glancing through one number of the *Progrès Vétérinaire*, when my eyes were attracted by an article headed "Treatment of Bovine Tuberculosis by the Serum Cuguillère," and I read the full history of a positive case of tuberculosis cured. The description of the symptoms left no doubt. Their clinical signification was certain. Tuberculin had confirmed the nature of the trouble and the diagnosis of pulmonary and ganglionic tuberculosis. Then followed the history of the treatment, which consisted at various intervals in subcutaneous injections of the serum prepared by a physician, Dr. Cuguillère. After receiving 400 cubic centimetres of serum from May 31 to July 19, the animal, which improved gradually, in which the glandular enlargements had resumed their normal aspect, in which auscultation had failed to detect the manifestations shown at first, and with respiration almost normal, and finally in which, to confirm the apparent clinical recovery, the test of tuberculin was resorted to and gave a negative result. Was it a true case of recovery? The post-mortem answered affirmatively and the lesions that were found justified the conclusions of the article, viz.: Bovine tuberculosis recognized clinically and scientifically has been cured with the Serum Cuguillère. The recovery has been established scientifically by the tuberculin and macroscopically by autopsy.

* * *

A month later another article from the same author on the same question—a case of generalized tuberculosis. The animal

was also put under the same treatment, and received over 500 cubic centimetres of the serum, when for private reasons the cow was condemned to be destroyed. However, before being killed, she was submitted to the tuberculin test, with the result that there was absolute absence of general reaction, while the thermic was only of 0.7° . The symptoms of the animal during the last part of the treatment had improved, but not as well as in the first case, and the result of the post-mortem was not so satisfactory. Some of the lesions were not as much improved in aspect as others, which were evidently recovered. We are told that the histological examination of the specimens taken from the two animals will be published later on.

* * *

These two records, well written and published under the signature of a sanitary veterinarian, created quite a sensation, and at a meeting of the Society of Application of Medical Sciences the new treatment was brought up for consideration by the author of the treatment himself, Dr. Cuguillère. The serum is not a secret compound, the Académie of Médecine in Paris knows all about it, and for the ordinary martyr all he needs to know is that the serum is a yellow liquid, with a strong odor of garlic, which gives rise to sharp pain at the point of inoculation when introduced under the skin. It has already done wonders and cured people. After the meeting three cows which had positive tuberculosis, by clinical examination and by tuberculin test, received their first dose of serum—30 cubic centimetres of serum—and from that day will receive one dose every week. On June 5 they were to be examined and killed according to their condition. I have not read of the results.

* * *

VALLÉE'S PREVENTIVE INOCULATIONS.—But to come back to the undoubtedly more important and practical part of the tuberculous problem, the prevention of the disease, what about the test which has been carried on by the Société Médecine Vétérinaire Pratique and of which I have already spoken in preceding chronicles?

The second vaccination took place on March 12 (that was three months exactly after the first), in the presence of many veterinarians and of others interested. It consisted also in the injection of a vaccinal emulsion in the left jugular, the dose, however, being four times as high as the first. After the operation Prof. Vallée held a conference, where among lots of interesting facts relating to tuberculosis in general and its prevention, I read the following points: "The chances of success in our experiments are good. The animals that have received the first inoculation are presenting the best aspect. Their condition is excellent, they have grown in fair proportion to the rather unfavorable conditions under which they are kept. Not one has a cough; in none can a sign of tuberculosis be detected. One died accidentally without presenting any tubercular lesion. Of the twenty that remained and which were tuberculinized in February, four at that time had a characteristic reaction to tuberculin. There is nothing in this to make us feel anxious or to surprise us; as the bacilli inoculated in the first vaccination not having been resorbed without giving rise to the formation of microscopic lesions, these were not yet healed and what remained was sufficient to promote tuberculin reaction. There is no doubt that all the animals would have reacted also had the test been applied nearer the time of the first vaccination."

* * *

The last stage but one of the experiment—that is, the stage of control—took place on June 15. This had been planned out by the Commission, and it was decided that a number of animals, among the twenty that remained, should be submitted to various modes of infection (subcutaneous and intravenous injections), while others would be exposed to infection by cohabitation with animals affected and carrying open lesions. Indeed, on that day, June 15, the Commission and many invited being present, the plan was carried out. Seven vaccinated animals and seven healthy témoins received an intravenous injection of a tested well-known culture; seven vaccinated and seven healthy had one subcutaneous; two vaccinated and two witnesses were

placed in a stable by diseased animals, and the four last are to be kept to be tested at various epochs, so as to determine the length of duration of the immunity.

Can any conclusion be arrived at so far? No, says Prof. Vallée, and repeating almost his own words of the last conference he held, he says, "everything looks favorable. Truly one of the subjects has reacted since the second vaccination—it has not received the injection of infected culture; it would have been useless, and it is not impossible for this reaction to subside and disappear. By the post-mortem when it is killed the effects of the vaccination will be found out. But at any rate the process of vaccination is perfectly harmless."

* * *

When is the result likely to be known? Towards the end of July or beginning of August something will be known. It is certain that the twenty subjects which have been inoculated or exposed will manifest some symptoms which will leave little doubt as to their condition, while, on the contrary, we must hope that the twenty subjects which were vaccinated previous to their being infected, will remain in the same good condition as they were on June 15.

I shall witness the post-mortem, and will in my next chronicle, I hope, give my readers the results.

The experiment above alluded to, however, relates to the question of the value of the vaccination of von Behring. But it may be remembered that Prof. Lignières had also demanded that a mode of vaccination of his should be tried at the same time. The Commission consented. I have so far little to say about it, as the results seem to be rather unfavorable to this mode of vaccination.

* * *

Some of our friends may fancy that I have dwelt on that experiment rather lengthily. If it is the impression, I regret it. But if one would have seen this handsome herd of forty young cattle, heifers and bulls, of several kinds of breeds, which for many months have been watched and carefully followed with the

greatest care so as to settle one of the most important questions of the day in veterinary science, and realizing the execution of an experiment carried on with all possible precautions to avoid denial or discussion on the result, the first large experiment of control after all, certainly I could not say less than I have done, and if I am blamed for it I am glad, however, that the remarks improperly applied to my friend Prof. Leonard Pearson by Dr. Siebert cannot be repeated. Dr. Siebert, who, I believe, is one of von Behring's assistants, wrote: "After bovovaccine of Behring has been tried scientifically in the most extensive manner and introduced in agricultural practice by the summities of veterinary art with successes promising the greatest expectations, it must seem presumptuous for Pearson in America to advance detailed divulgations, and with all that speak of the superiority of his (Pearson's) so-called method, when it seems that the existence of bovovaccine is known to him only by what he has read." We know differently. Dr. Pearson, I am sure, has seen the trials of bovovaccine in Germany, and if he does not believe in it, there are many Germans like him.

* * *

AN HISTORICAL AUTOPSY.—Leaving the subject of tuberculosis aside for a moment, I must tell of a post-mortem whose lesions I had an opportunity to examine at the Société Centrale de Médecine Vétérinaire of Paris, where they were exhibited. The history of the case is probably known to many of our readers. One day, during the visit that Alphonse XIII, King of Spain, made to Paris, a bomb was thrown on his passing the Rivoli Street, killing one horse and wounding a number of persons. The horse belonged to an officer of Cuirassiers, who commanded the escort of the King. Of course, all the details were made public and do not belong here. The horse killed on the spot was sent to Alfort, where the post-mortem was made by no less officials than the Director of the school himself, M. Barrier, and Professor Petit. The report made by those gentlemen reads as follows:

Skin and natural openings.—A circular cutaneous opening

some 18 millimetres in diameter on the posterior border of the left olecranon muscles—on a level with the tuberosity of the acromion spine, superficial contused wound ; one also on the superior part of the neck ; some cutaneous abrasions on the head ; blood escaping from the mouth and nostrils, upper lip cut ;

*Extrathoracic lesions on the left side after removal of the left leg :—*Under the circular cutaneous opening extensive bloody infiltration and a wide torn space, indicating the course of the wounding body ; between the shoulder, the pectoral muscles and the left thoracic wall cellular tissue contains an enormous infiltration of blood ; between the fifth and sixth left ribs, costal muscles and pleura are torn and posterior border of the fifth rib scratched with the projectile ;

*Lesions of the thoracic cavity :—*After removing the left costal wall it is found that the left pleural sac is filled with an enormous clot of blood, extending from the first rib to the diaphragm. This clot has surrounded the left lung, which is pressed upon and pushed in the right pleural sac in tearing through the posterior mediastinum. The left pulmonary lobe, on a level with the cardiac notch, is pierced through and through by a large hæmorrhagic tear. The pericardium is also torn near its base and its cavity filled with blood. The trunk of the pulmonary artery is pierced through and through and this lesion has given rise to the large intrathoracic and intrapericardial hæmorrhage. The right pulmonary lobe offers the same lesion as the left, and finally the right thoracic wall is identically injured as the left—perforation between the fifth and sixth ribs, scratching off of the posterior border of the fifth.

*Right extrathoracic lesions with right fore-leg taken off :—*Exact repetition of those found on the left side and in the thickness of the muscle, large extensor of the forearm, the projectile, cause of these fatal lesions, viz. : a bolt of 20 millimetres in diameter which was used to cork the bomb after its being loaded. There were no other lesions.

* * *

ACKNOWLEDGEMENTS AND REVIEWS.—I have been favored

of late with a number of books and communications, coming as they have almost from the four cardinal points of the United States—from Louisiana by the arrival of the *Louisiana Planter*, with the articles on molasses feeding by our friend Dr. Dalrymple; then from Maine with the *Horse Breeder*, where Dr. G. H. Bailey always defended his theory against the trotting of a mile in two minutes. [Poor fellow: it was his last to me; I learned of his death a few days after.] From the East and from the West I had announcements of colleges [unfortunately they show little change from their last year's aspect], but that of the New York State Veterinary College is interesting. I also had from Chicago the first volume of "Veterinary Surgery," by Dr. Louis A. Merillat, which is published by A. Eger, of Chicago. In this volume "Animal Dentistry and Diseases of the Mouth" are treated. A nice work of 250 pages, well illustrated by 160 good plates, which, if I am not mistaken, is the first book treating entirely of the subject, and which on that account will prove of great interest to all practitioners. The general manipulations to obtain the dexterity that American horse dentists alone possess, are very correct. Volume II and III will be anxiously looked for.

* * *

A more important book I also had lately—"Thérapeutique Vétérinaire Appliquée"—otherwise "Special or Applied Veterinary Therapeutics," by Mr. H. J. Gobert. This is again an addition to the Cadeac Encyclopædia, but forms a complement to the one on general therapeutics alluded to in a previous chronicle. The arrangements of the drugs, adopted by the author, differ from those generally admitted; he has grouped them according to the changes, to the modifications that they produce in the different functions: modifying agents of the digestive apparatus, of nutrition, of respiration, circulation, nervous system, urinary apparatus, genital system, milk secretion and finally modifying agents of all the tissues. Exceptionally, in the first chapter, the study is found of those agents which act on the *cause* itself of the disease, when this cause is external to the or-

ganism: such as the antiseptics and the antiparasitics. This plan of the author makes his work essentially practical—it is a therapeutic of symptoms well made out. For each drug the physiological effects are given, the indications being derived from them, the doses, modes of administration, and when treating of toxic substance, the indications for using antidotes. The book is like the preceding ones issued by the house of J. B. Bailliere, rue Hautefeuille, Paris. Cost 5 fs.—one dollar. Whoever reads French will be pleased with the work. A. L.

A GRAND MEETING OF THE A. V. M. A.

One of the most potent evidences of professional prosperity and progressiveness is the interest taken in the associations for advancement in knowledge, and when the meetings are sparsely attended and interest lagging they are as certain indications that the condition of that profession are unstable and unsatisfactory. If this line of reasoning is accepted as reliable law, those having the welfare of the profession in this country at heart must have a complacent feeling as they read the story of the Cleveland meeting of the American Veterinary Medical Association, for it was far and away the most valuable as well as the largest gathering of veterinarians ever brought together on the American Continent. This estimate of the importance of the late meeting may sound familiar to REVIEW readers, as the same expressions have been used to describe each convention for a number of years in succession; but we have no apologies to offer for our seeming lack of descriptive English, for the statements have always been exactly true to the facts, and we sincerely trust that we may be permitted to indulge in the same precious tautology next year, and the next, and the next.

Study the abridged report of that meeting in this journal, and supplement it by the official record soon to be published in book form; look at it from every viewpoint, and say if it was not a great gathering of the profession—one to reflect credit upon any scientific organization, and to make one feel a thrill of pride to be counted as one of its number.

The papers read embraced every phase of professional endeavor, from the most advanced thought and research in pestilential diseases to the every-day problems in surgery and practice; and in a practical sense from the exhibition of pathological specimens of infective diseases to the demonstration of simple surgical procedures.

The educational problem, which has been pressing with such force for action that would tend to uniformity in the product of the colleges, received a real impetus at Cleveland in the reorganization of the Association of Faculties and Examining Boards of North America. The A. V. M. A. authorized its President to appoint three delegate-members to the Faculties Association, to discuss and harmonize the uneven balance in the quality of the work being done by the schools, and to report back to the Association the minimum requirement which the schools agree to conform to. It will then become the business of the Association to know whether they violate their agreement or not. Of course, there are many details to be considered, and it is not known how great an advance step can be taken by the schools having the lowest grade; but the plan offers the most promising results of any that have been suggested.

Failure to attend is not compensated for by the efforts of this journal to give a faithful account of all that transpired; but we hope to publish as many of the papers as we are able to obtain.

We congratulate the Association upon its grand meeting, and the profession upon having such an Association to represent it.

THE NEW YORK STATE MEETING.

The annual meeting of this society has earned a national reputation for the excellence of its clinics, which are acknowledged to have set the high standard that characterizes the surgical clinics now universally in vogue. It is but a few years since this educational feature of veterinary meetings was introduced, yet its popularity has increased each year until now a meeting with the clinic omitted would be shorn of more than

half of its value and interest. We are not certain just where the first one was inaugurated, but we do know that the New York State Society has brought it to its highest estate, and in recent years its meetings are attended by veterinarians from many States, attracted chiefly by the reputation it has acquired along this line. Here operations are demonstrated with every detail of technique, and with every regard for the principles and practice of the highest conception of antisepsy and anæsthesia, and it is doing as much benefit to practicing veterinarians as a post-graduate course in a good school.

This year the officers of this Society can be relied upon to maintain all the prestige of the past, and to take a step well in advance. Not only will the surgical feature be thoroughly upheld, but the literary programme is most excellent, and we refer our readers to the regular department of "Society Meetings," where this section is fully detailed, and which will be found to embrace every line of thought—from the intricate problems of State medicine to the reports of simple cases met with in daily practice.

If you were in attendance at Cleveland, or were forced to remain away, you cannot afford to be absent from Ithaca, on Sept. 12 to 14.

DRS. MERILLAT AGAIN WITH THE "REVIEW."

We are pleased to announce that Drs. Louis A. and Edward Merillat, of Chicago, have again assumed direction of a department of the REVIEW devoted to surgery. A few years ago these well-known veterinarians edited a pretentious series of surgical papers for this journal, which were greatly appreciated by the profession. Their present undertaking will aim to supply our readers more with the "news" of the surgical world, grouping it in paragraphs under the broad heading of "Surgical Items." As the senior compiler is engaged in the preparation of a text-book upon the subject, he must necessarily keep abreast of all that is transpiring, by extensive reading and otherwise; and thus our readers are to have the advantage of his great opportunities.

ORIGINAL ARTICLES.

THE ARTIFICIAL IMMUNIZATION OF CATTLE AGAINST TUBERCULOSIS.

BY LEONARD PEARSON AND S. H. GILLILAND.

(From the Laboratory of the State Live Stock Sanitary Board of Pennsylvania.)

A Paper presented to the 42d Annual Meeting of the American Veterinary Medical Association, at Cleveland, Ohio, Aug. 15-18, 1905.

Efforts to produce artificial immunity against tuberculosis have been conducted for a number of years and along many lines. In 1890, Robert Koch announced the discovery of tuberculin. It was claimed at that time that by the use of tuberculin resistance to tuberculosis could be increased in such a way as to assist in withstanding infection, and also that some infections already established might under the use of tuberculin be overcome. But extensive experimentation has shown that these effects are not sufficiently uniform, lasting or powerful to be of distinct practical value.

Following this pioneer work of Koch came the work of many investigators with modified tuberculins and with extracts from tubercle bacilli made in a variety of ways. Repeated experiments with all these substances have shown that it has not been possible by their use to render animals immune to tuberculosis permanently, or to a practical degree. Experiments have been made by several investigators to test the immunizing value of dead tubercle bacilli and of bacillary pulp. The results have been about the same as have followed the use of extracts from tubercle bacilli.

It became evident years ago that immunity against tuberculosis, to be of value, must confer protection against the organism of tuberculosis as well as against its toxins. There must be bacterial as well as toxic immunity. Efforts to immunize animals against living and virulent tubercle bacilli by inoculating them with living tubercle bacilli of low virulence were made as early as 1891 by Granchez and Ledoux-Lebard. In 1892 and

1893 Trudeau* found that by inoculating rabbits subcutaneously with living cultures of avian tubercle bacilli, he was able to increase their resistance to infection from mammalian tubercle bacilli of a culture known to be virulent for rabbits. De Schweinitz† in 1894 discovered that it was possible to very greatly increase the resistance of guinea-pigs to inoculations of tuberculosis by inoculating them with attenuated tubercle bacilli of human origin; the process of attenuation consisting in prolonged cultivation (twenty generations) on glycerin beef broth of acid reaction. Tubercle bacilli of human origin grown in this way lost their virulence for guinea-pigs, but guinea-pigs inoculated with this non-virulent culture developed so much resistance to tuberculosis, that when they were afterwards inoculated with tuberculous tissue from a cow they remained healthy, while other guinea-pigs inoculated with the same material from the cow died of tuberculosis in seven weeks. DeSchweinitz injected very large quantities of human tubercle bacilli into cattle subcutaneously, intravenously and intraperitoneally. He found that by gradually increasing the dosage enormous quantities could be tolerated without injury. He administered as much as 500 c.c. of a heavy suspension of tubercle bacilli at one time.

McFadyean‡ in 1901 and 1902 reported that he had found that the resistance of cattle to tuberculosis may be very greatly increased by the use of successive inoculations with tuberculous material or tubercle cultures of low virulence. In a paper of McFadyean's entitled "Further Experiments Regarding the Immunization of Cattle Against Tuberculosis,"§ the author states this conclusion:

"It appears to be justifiable to conclude that, whatever may have been the degree of natural immunity possessed by these three experimental animals, it was much increased by the suc-

* *New York Medical Journal*. July 23, 1893.

† *Medical News*, New York, December 8, 1894.

‡ *Journal of Comparative Pathology and Therapeutics*, June, 1901, and March, 1902.

§ *Journal of Comparative Pathology and Therapeutics*, March, 1902.

cessive intravenous inoculations to which they were subjected. The immunity was not absolute, but it may be doubted whether a degree of resistance that would merit that term is obtainable by any method in cattle."

Von Behring announced in December in 1901 that he was engaged in studying the immunization of cattle against tuberculosis, and he has since issued several reports upon his work. Von Behring has made a very large number of experiments in this field; he has endeavored to produce immunity by the use of tuberculins, by the use of other tuberculosis toxins, by antitoxins, by the use of dead tubercle bacilli, of tubercle bacilli weakened by chemical agents and by the use of tubercle cultures of low virulence. A method for the vaccination of cattle against tuberculosis has been formulated by von Behring, and it is based on the use of tubercle bacilli of human origin that are non virulent for cattle. In making this "vaccine" the tubercle bacilli are dried and ground to a powder. The vaccine material is sent out in this dried state. It is necessary to make a suspension of it in normal salt solution, whereupon it may be administered by intravenous injection. A number of investigators as Lorenz, Schlegel, Eber and Hutyra have tested the resistance of cattle treated by von Behring or according to von Behring's method. It has been shown that the resistance of these animals to tuberculosis has, in most cases, been increased and sometimes considerably so.

It is to be observed, however, that many of the cattle reported upon by the above authors, were not vaccinated according to the method that von Behring now recommends, and as Eber says* " * * * The tuberculin test is not a reliable means for determining the freedom of tuberculosis of an animal that has been treated with mild bovine or human tubercle bacilli unless a long time (generally more than a half year) has elapsed since the last administration of infectious material. * * * Since neither of the treated cattle was vaccinated by the two-vaccination methods with attenuated human tubercle bacilli according

* *Zeitschrift für Tiermedizin*, Band IX Heft 3-4, 1905.

to the method now recommended by von Behring, the conclusions that are reached as a result of my investigations have only a relative bearing on an estimation of the value of the method now recommended by von Behring.

"The results of the investigations show, however, that it is possible to confer upon cattle by treating them with attenuated bovine or human tubercle bacilli a certain degree of resistance to artificial tuberculosis infection.

"Whether this resistance, as produced by the two-vaccination method, with attenuated human tubercle bacilli, that is now in use, furnishes protection against natural infection can only be determined by years of careful observation and the greatest possible number of animals immunized in this way and controls at the time of slaughter."

Hutyra* has reported some work conducted by him in 1903 and 1904 at the Royal Veterinary College of Hungary wherein he tested the immunity of calves vaccinated according to von Behring's method with material furnished by von Behring and also with material prepared from cultures made by himself. Hutyra tested the resistance of his vaccinated animals by inoculating them with virulent bovine tubercle bacilli and their resistance was compared to that of unvaccinated animals. He found that nearly all of the vaccinated animals had more resistance than the unvaccinated animals. One animal treated with von Behring's vaccine (No. 3) appeared to have received no immunity as a result of vaccination. Hutyra's own vaccine material from different sources appeared to give a noticeably higher degree of immunity than that obtained from von Behring's.

Recently, a large number of cattle, amounting to several thousand, have been vaccinated after the von Behring method in Germany, Austria and Hungary. The process does not appear to be free from danger in every instance, as is shown by the reports of Marks, Casper and others. It is as yet impossible to draw any conclusions whatever as to the efficacy of vaccinations

**Berträge zur Experimentellen Therapie*, Heft 9, 1905.

from the results of this great number of vaccinations of cattle on farms. The only conclusion at which one may fairly arrive is that vaccination appears, *in most cases*, to be unattended by danger to the vaccinated animals. Whether immunity is conferred and, if so, whether it is sufficiently powerful or lasting for practical purposes is not yet shown by the practical application of von Behring's method. Of the animals that have been vaccinated on farms and afterwards exposed to infection a number have been slaughtered and some have been found to be afflicted with tuberculosis, others have been found to be free from tuberculosis. The presence of lesions of tuberculosis is taken by some of von Behring's observers to mean that the animal was tubercular before it was vaccinated. Of course, this may be true. But it must be remembered that the absence of lesions of tuberculosis in vaccinated animals cannot fairly be taken to signify the existence of a serviceable degree of immunity unless it is shown that the conditions under which these animals were kept were such as to lead to the infection of a considerable proportion of unvaccinated animals. And this evidence is in most cases lacking.

Klimmer has carried out some very useful investigations upon the immunization of cattle against tuberculosis at the Royal Veterinary College at Dresden.* Klimmer protests against sending out vaccine material in the dry, powdered state on account of the great danger to the operator who attempts, in the field, to prepare this material for use. Klimmer's practice is to prepare suspensions of tubercle bacilli in the laboratory, just as has been done for a number of years at the laboratory of the Pennsylvania State Live Stock Sanitary Board.

The vaccine material that has been prepared in Dresden appears to be harmless to the vaccinated animals, and indications thus far are that it confers a serviceable degree of immunity, but it is not yet possible to draw final conclusions from this work for the reason that the vaccinated animals are still living and it is impossible to determine positively whether they are

**Berliner Tierärztliche Wochenschrift*, July 5, 1905.

free from tuberculosis. Klimmer proposes the use of a vaccine material made of mammalian tubercle bacilli that have been rendered less virulent by passage through a cold blooded animal. The advantage from such a culture would lie in the total absence of danger to the operator.

Work upon the vaccination of cattle against tuberculosis at the laboratory of the State Live Stock Sanitary Board of Pennsylvania commenced in the year 1900. It has, therefore, been underway for about five years. We were able to show three years ago* that it was possible to increase the resistance of animals to tuberculosis to a very high degree by treating them with several intravenous inoculations of non-virulent tubercle bacilli of human type. Two cattle thus treated were inoculated intratracheally with a suspension of bovine tubercle bacilli, and both of them wholly resisted the inoculation. The only lesions in either of these animals was a slight thickening upon the wall of the trachea at the place where the hypodermic needle was inserted. Two unvaccinated animals, inoculated at the same time, in the same way, with the same quantity of bovine tubercle bacilli, from the same culture, became extensively infected with tuberculosis, showing the lesions on the mucous membrane of the trachea and bronchi, in the lungs, and in the bronchial, mediastinal and postpharyngeal lymphatic glands.

The immunity that was obtained in the case of these two animals resulted from the administration of seven intravenous injections of vaccine material during a period of ten weeks. The doses of tubercle bacilli ranged from 13 to 26 mg. While this experiment, and other similar experiments, were sufficient to lead us to the conclusion that animals may be rendered immune to tuberculosis, it was at the same time evident that a process depending upon the application of vaccine material seven different times, would be of comparatively small value in general practice. Therefore, we set ourselves to the study of the effects of other methods of vaccination and to the development of a simple and effective method. During the past three years

* *Philadelphia Medical Journal*, November 29, 1902.

we have attempted to determine the immunizing effects of several strains of tubercle bacilli. We have administered vaccines in different doses, at long and short intervals and with varying numbers of doses.

For these experiments we have been supplied by the State Live Stock Sanitary Board with a large number of animals. For two years we have had the use of a farm where about one hundred cattle have been kept for experimental purposes. We have also had the use of stables at the Veterinary Department of the University of Pennsylvania, where from twenty to twenty-five cattle have been kept, together with numerous goats and small laboratory animals. Through the use of the farm, we have been enabled to keep a considerable number of cattle under practical farm conditions.

During the time that they have been under observation in our experiments, the resistance to tuberculosis of vaccinated animals has been tested through exposure to natural infection and by inoculation. When vaccinated animals have been exposed to infection and when they have been inoculated, unvaccinated, control animals have been equally exposed or inoculated. We regard this use of controls of the highest importance, because it is only in this way that a definite standard for comparison can be provided in order to measure the extent of resistance to a given amount of exposure. Moreover, it is only by the use of controls that one can ascertain whether exposure under natural conditions has been sufficient to lead to the infection of unvaccinated animals.

It is not enough to associate vaccinated cattle with tubercular cattle and then to conclude that the vaccinated cattle were immune because, when they were killed, they did not show lesions of tuberculosis. It might readily happen that the exposure was not sufficient to lead to the infection of unvaccinated cattle; but if, upon equal exposure, we find that the unvaccinated cattle are tuberculous, and the vaccinated cattle are free from tuberculosis, then we may safely and justly conclude that the vaccinated cattle received immunity from their vaccination.

Our proof is based upon such clear evidence as this, frequently repeated.

Our experiments have shown that different strains of tubercle bacilli have different immunizing values. Avian tubercle bacilli may produce an intoxication resulting in great emaciation, but avian cultures do not appear to confer upon animals so much immunity as results from the use of mammalian cultures that are non virulent for the animals upon which they are used. In order to produce artificial immunity in mammals it appears to be necessary to vaccinate with an attenuated mammalian culture.

We have not found any advantage either in respect to the degree of immunity or economy of time in the use of several vaccines made from cultures of different and progressive degrees of virulence.

The amount of immunity bears a rather definite proportion to the number of vaccinations and the amount of vaccine material used, provided however, that the animal be not "over vaccinated;" that is, that the vaccinations are not too close to one another, and that an excessive amount of vaccine is not administered. By over vaccination the resistance of an animal to tuberculosis may be reduced to a point below normal, or a fatal toxæmia may be caused.

Experiments have been made wherein animals vaccinated with different doses and different numbers of doses have been inoculated at the same time, and in the same way. While the resistance of all of the vaccinated animals to the inoculation has been much greater than the resistance of unvaccinated animals, it has been possible to observe a marked difference between animals vaccinated in different ways. For example, an animal vaccinated five times has more resistance than an animal vaccinated four times, and other conditions being equal, an animal vaccinated four times has more resistance than an animal vaccinated three times.

From the practical standpoint, it is more important to ascertain the amount of vaccination that is necessary to protect ani-

mals under customary conditions of exposure and the shortest possible time during which a sufficient degree of immunity may be conferred, that it is to determine how great a degree of immunity may be produced.

Since it has been necessary to try a great number of different methods of vaccination, and since the time required for an experiment of this sort is much greater than is usual in experiments conducted through laboratories of hygiene, it has been difficult and time consuming to accumulate evidence upon which to base a general method for the vaccination of cattle.

It is already clearly evident that different degrees of immunity, and serviceable degrees of immunity, may be obtained at will. Under natural conditions, animals differ in respect to their inherited or acquired resistance to tuberculosis. Conditions of exposure differ, being very much greater upon some farms and in some herds than in others. Therefore, it seems to be reasonable to conclude that animals will require more artificial immunity to tuberculosis under some conditions than under others. The case is similar to the protection of cattle against anthrax by vaccination. In Pennsylvania we have found by experience, extending over a series of years, that the immunity conferred by vaccinating with the first and second vaccine of Pasteur usually is sufficient. On a few farms, however, the exposure appears to be more intense and it is found that on such farms it is necessary to use the third vaccine of Pasteur. Experience may show that it will be necessary to vaccinate different breeds of animals, and animals kept under different conditions, in slightly different ways.

The amount of immunity that is conferred by three vaccinations is rather high, and will probably be sufficient in most cases. Indeed, two vaccinations may supply a sufficient amount of immunity under some conditions. Under other conditions it may be necessary to vaccinate four times.

The subject of the duration of immunity is very important, and is one that can be solved only by observations upon a large series of vaccinated cattle, some of which may be killed and ex-

amined post-mortem from time to time during a term of years. Of course it is necessary that animals kept for this purpose shall constantly be exposed to infection and unvaccinated controls must be similarly exposed, and the post-mortem results must show that the amount of exposure was sufficient to cause the infection of the unvaccinated animals.

Our own experiments indicate that artificial immunity may endure at least two years, and there is every reason to expect that additional experiments will show that immunity will be of longer duration than this. Perhaps it may last throughout the entire life of the animal; but conclusions on this point are entirely premature.

The effect of tuberculosis vaccination upon cattle already infected with tuberculosis has also received our attention*; it has been found that intravenous injections of tubercle bacilli of human type, non virulent for cattle, have a very marked influence not only in restraining the progress of existing lesions but also in causing them to become encapsulated and to recede. In other words, such treatment appears to have a marked curative effect on some tuberculous animals. But this statement should be accompanied by a note of warning. We do not for a moment wish to imply that it is practicable, or even possible, at this time, to cure tuberculous cattle. The observations to be made in this direction are regarded by us as of importance chiefly as tending to throw additional light on the subject of immunity. It was shown that the treatment given had the same immunizing effect upon infected animals as upon healthy animals. The effect of the immunization in these cases was, first, to prevent the further dissemination of infection and, second, to cause the encapsulation and delimitation of the existing lesions.

It is probable that this method of treatment may prove to be of value with relation to young animals, or animals known to be but recently infected with tuberculosis. Such treatment will always have to be carried out with the most extreme care and

* *University of Pennsylvania Medical Bulletin*, April, 1905. AMERICAN VETERINARY REVIEW, 1905.

under conditions that can be very fully controlled. It is not to be recommended for general practice.

As to the application of vaccination against tuberculosis: vaccination, properly applied, is effective and we believe that it will prove to be of very great practical value. It is not possible on most American farms to establish a separate herd of infected cattle and to keep the infected cattle as separate and distinct from the uninfected cattle as is necessary, if tuberculosis is to be treated according to the Bang system. The alternative, if tuberculosis is to be eradicated, is to destroy all of the animals that react to the tuberculin test. The latter plan involves a great deal of waste and loss, which, heretofore, has been unavoidable and which has been amply justified because it has been less than that resulting from the continuation of the infection in the herd.

But it is important that a better, a less expensive, and, if possible, a more effective method shall be devised. It appears to be highly probable that vaccination may supply this method. It is admittedly impossible to test with tuberculin all of the tuberculous herds of a state. Therefore, it is not possible to discover and to either destroy or sequester all of the cattle that may be distributors of tuberculosis. Herds freed from tuberculosis by the use of the tuberculin test are always exposed to reinfection and must be guarded by the double testing of all recruits and by systematic reinspections of the herd. All of this may be, and is, carried through successfully, and should be practiced to a much greater extent than it is, unless an equally effective and cheaper method can be devised.

It will be a great step in advance to be able not only to discover that an animal is free from tuberculosis, but also to render that animal permanently immune to infection. It will be a great advantage to be able so to treat young cattle that they may resist tuberculosis even though they are continually exposed. The advantage to the breeder, of being able, not only, to grow a herd free from tuberculosis, but immune to tuberculosis, will be very great. We believe that all of this may be looked for-

ward to; but until more experiments and observations are completed, vaccination should be applied only under such conditions as will permit exact observations to be made, and each vaccination must, for the present, be regarded as a scientific experiment.

THE HORSE'S FAILING.—Hans, the ruralist, was in search of a horse. "I've got the very thing you want," said Bill Lennox, the stableman, "a thorough-going road horse. Five years old, sound as a quail, \$175 cash down, and he goes ten miles without stopping." Hans threw his hands skyward. "Not for me," he said, "not for me. I wouldn't gif you 5 cents for him. I live eight miles out in de country, und I'd haf to walk back two miles."—(*Norman, Oklahoma, Voice.*)

YEAST TREATMENT FOR BARRENNESS.—Dr. A. S. Alexander, Chief of the Veterinary Department of Wisconsin Agricultural College, recommends a trial of the following formula for yeast mixture, to be used in case of barrenness of cows, sows and mares: Mix an ordinary two-cent cake of yeast to a paste with a little warm water, and allow to stand for twelve hours in a moderately warm place; then stir in one pint of freshly boiled, lukewarm water and allow to stand for eight to twelve hours. Mixture then will be ready for use, and entire quantity should be injected into vagina of animals to be bred. Use the mixture, when period of heat is first detected, and breed when period is about ended. The same treatment is recommended in the case of cows which have aborted.

A NOVEL FEATURE AT A STATE FAIR.—A special exhibit at the Wisconsin State fair will be made by the Wisconsin State Live Stock Sanitary Board. The exhibit will consist of the slaughtering of animals diseased with tuberculosis, indicating how the disease shows itself, how the symptoms can be detected and other valuable information. The exhibit will be in the immediate charge of Dr. H. L. Russell, bacteriologist at the State University, and Dr. E. D. Roberts, State Veterinarian, and they will have a sufficient number of assistants. Dr. Russell will present lectures of popular-scientific character so that the demonstrations will be easily understood by all and the lectures will be accompanied with practical exhibitions, in which the stock shown will be slaughtered and the diseased parts dissected and explained.

A REVIEW AND CRITICISM OF THE EIGHTH DECEN- NIAL REVISION OF THE PHARMACOPEIA OF THE UNITED STATES.

BY E. L. QUITMAN, V. S., CHICAGO, ILL.

Read before the 42d Annual Meeting of the American Veterinary Medical Association at
Cleveland, Ohio, August 15-18, 1905.

At last, after a lapse of five years (two years longer than usual) following the meeting of the U. S. P. Convention, the U. S. P. of 1900 has made its appearance, a larger, a better and a more accurate work than any of its predecessors, yet not entirely free from adverse criticism, which, however, is considerably over-balanced by the many commendable changes.

On account of so many radical changes I have assumed that an article of this kind, at this time, will be of more value to the veterinary profession than if I had held to my originally announced subject ("General Remarks on Veterinary Therapeutics") inasmuch as the changes are as important to our fraternity as they are to the medical profession, and it matters not whether you prescribe or furnish medicine from your own pharmacy, it is of the most vital importance that you become conversant with these changes from the U. S. P. of 1890.

In a number of instances you will have to learn entire new names for old favorite drugs, in other cases you will have to learn new doses, especially as applies to tinctures; for in this condition the very commendable attempts to unify the strength of tinctures has been carried out.

It shall be my purpose to give only a very brief review of the U. S. P. of 1900, mentioning only the more important changes as far as they relate to the veterinary profession, with the hope that you will become sufficiently interested to procure for yourselves a copy of this most important work, by doing which you will save yourselves many grievous errors and at the same time encourage a work that has done more than any other single line of work, in bringing order out of chaos. Think for a moment what a chaotic condition of affairs in medicine there

would be if there was no book of this kind to define exactly by what name and of what strength certain preparations of a drug should be—prescription writing would be an impossibility, doses would be entirely arbitrary and each drug known by as many different names as there were manufacturing druggists—writings or conversations on *materia medica* and therapeutics would be almost unintelligible to the practitioners of various parts of the country—one manufacturer would make a certain tincture or fluid extract of one strength, another of another strength, and so on; and, again, the various preparations, extracts, fluid extracts, tinctures, etc., would have a variety of fantastic names instead of well-defined terms and processes of manufacture.

The U. S. P. of 1900 becomes official from Sept. 1, 1905. With these prefatory remarks, I will now proceed with the work in hand:

We first notice that more definiteness has been placed on the standard of purity for the purpose of making a dividing line between medical and commercial products of the same agent; next our attention is called to more thorough alkaloidal assays than heretofore existed, as the new *Pharmacopœia* contains a greater number of alkaloidal strengths of the more active and important vegetable drugs than the previous editions. This is of the utmost importance in medico-legal matters aside from its value in the manufacture of the pharmaceutical preparations and the study of physiological actions and therapeutics; then an average (human) dose is given, this being the first time that such has been done, it is specifically stated, however, that such doses are not obligatory nor is the physician forbidden to exceed them; thus it is seen that they, unlike the other matter of the book, are not so given as "law," but merely as a guide.

A praiseworthy feature was the readoption of the spelling of alkaloids with the final *e*, which serves to distinguish them from glucosides; thus morphine, quinine, etc., will be spelled as heretofore, and not morphin, quinin, etc., as advocated by Gould and other chemical writers.

An attempt is also made to do away with the innumerable synonyms, by omitting them from the text of the book and by adding an appeal to the medical profession and pharmacists to use only the proper Latin or English titles given. This is a feature that we should all join in, as it will do much to avoid confusion in prescribing and dispensing and in literature or conversation relating to drugs.

One of the most, or perhaps *the most important change*, and to which I call your special attention, is to the standardizing of the strengths of tinctures of the potent drugs to *ten per cent.*—most notable of which and important to veterinarians on account of its extensive use in our practice is the tincture of aconite, which is now practically only of 10 per cent. strength instead of 35 per cent. as formerly, thus the dose of the new official tincture will be about three and a half times as much as the former tincture, also tincture of veratrum is now 10 per cent. instead of 40 per cent., thus its dose will have to be increased fourfold; tincture of strophanthus is increased from 5 per cent. to 10 per cent. Thus its dose will have to be cut in two.

The less potent tinctures, with but few exceptions, have been made of a standard of 20 per cent. strength.

Inasmuch as the veterinarian uses mostly of the fluid extracts and but comparatively few of the tinctures, he will be less affected by this change than the practitioner of human medicine. However, considerable caution will have to be shown for some time to come after September 1, 1905, in prescribing, so as to know whether the druggist is dispensing the tinctures of the old or of the new standard—this, of course, will also have to be watched in getting drugs from the wholesale dealer.

These changes will, of course, result in considerable confusion at first and perhaps some serious errors may occur, which I hope will be averted by extensive advertising of the changes. However, they are a change in the right direction, as heretofore the tinctures varied in strength from 1 to 50 per cent. The standard of strength of fluid extracts (100 per cent.) and of the liquid arsenical preparations (1 per cent.) remain as heretofore.

Of the serum products only one was admitted, diphtheria antitoxin, under the official title of "serum antidiphthericum."

Two of the animal products were admitted, namely "glandulæ thyroideæ siccae" and "glandulæ suprarenales siccae."

The titles of a number of the old official articles were altered, as stated by the Pharmacopœia, "for the purpose of bringing them into harmony with the principles of nomenclature followed in other parts of the work, or to make them more expressive of the character of the article or preparation which they designate." One of the most important, and I might say unique, among the changes is that of the Latin name for *fluid extracts*. This, as is well known, was formerly designated, for example, as "extractum belladonnæ fluidum," which under the new nomenclature becomes "fluidextractum belladonnæ," or, in other words, the U. S. Pharmacopœia Convention has coined a new word by making one word of what has previous to this time been two words, and I fear they have laid themselves open to criticism by philologists for compounding a word which is half English and half Latin.

I also fear that it will cause errors by pharmacists in reading prescriptions, as it will be by lazy prescribers abbreviated into "Fe.," which if hastily or poorly written may be read as "Tr." (for tincture) and *vice versa* a poorly written abbreviation for tincture (Tr.) may be read for the abbreviation Fe. for fluid extracts. Their only excuse is that it renders the indexing of drugs easier, clearly separating the fluid extracts from the extracts in an alphabetical manner.

Among other important changes of drug nomenclature may be mentioned the changing of acidum arsenosum to arseni trioxidum; acidum chromicum to chromii trioxidum; acidum carbolicum to phenol; chloral to chloralum hydratum; amyl nitris to amyli nitris; apomorphinæ hydrochloras to apomorphinæ hydrochloridum; cocainæ hydrochloras to cocainæ hydrochloridum; ferri oxidum dydratum to ferri hydroxidum; glyceritum acidi carbolici to glyceritum phenolis; all salts ending in hydrochloras become hydrochloridum; likewise hydrobromates

become hydrobromides; liquor potassæ becomes liquor potassii hydroxidi; liquor sodæ becomes liquor sodæ hydroxidi. Naphthalinum is changed in spelling to naphthalenum; potassii bichromas is transformed into potassii dichromas; resorcinum becomes resorcinol; salol is phenylis salicylas; sodii hyposulphis to sodii thiosulphus; spiritus glonoini to spiritus glycerylis nitratis; the above and other similar changes in nomenclature are changed for "chemical" reasons, the new names being correct from a chemical standpoint.

Aloe barbadensis and *aloe socotrina* will be considered equal under the official title of "aloe"; *colchici radix* is changed to *colchici cormus*; *veratrum viride* to simple "veratrum." The above mentioned are but a few of one hundred and thirty-nine changes and are deemed sufficient to cause the profession to look up the matter more thoroughly by reference to the original work.

One hundred and seventeen (117) new drugs have been added, among the better known of which are acetone, acidum camphoricum, acidum hydriodicum dilutum, aconitina, adeps lanæ, antipyrina, bismuthi subgallas and subsalicylas, codeinæ phosphas and sulphas, colchicina, cresol (commonly known as creylic acid), elixir ferri, quinina et strychnina phosphatum and a glycerite of the same of four times the strength (the syrup has been and is still official), acetic acid fluid extract of lobelia, fluid extractum staphisagriae, fluid extractum stramonii, guaiacol, guaiacolis carbonas, iodolum, liquor antisepticus (similar to listerine), liquor cresolis compositus (similar to creolin), liquor formaldehydi, oleatum atropinae (2 per cent.), cocainæ (5 per cent.), and quinina (25 per cent.), pelletierina tannas, strophanthinum, syrupus hypophosphitum compositus, unguentum hydrargyri dilutum, zinci phenolsulphonas (formerly known as zinc sulphocarbolate), etc.

One hundred and fifty-one (151) articles heretofore official have been dropped; among which are twenty-five extracts, several of the drugs or preparations are of undoubted value, more so than some remaining official; for instance, tincture arnica root is dismissed; this is more active internally than the tinct-

ure of the flowers, which remains official ; elixir, oil and spirit of phosphorus, carbonate of lead, tincture of bryonia and too many others to enumerate here. It might be well to add that petrolatum molle and petrolatum spissum have been dropped ; one word (" petrolatum ") is now used to embrace both.

RECAPITULATION.

Articles official in 1890, 994 ; articles official in 1900, 958—decrease 36 ; articles dismissed in 1900, 151 ; articles added in 1900, 117 ; names changed 139.

It can readily be noticed from the brief outline of the changes noted above that the practitioner of medicine, the dispensing druggist and the manufacturing druggist, all will be materially affected in various ways by the changes, the most dangerous of all is the change of strength of tr. aconite. Think what it will mean to the patient, either human or veterinary, if the prescriber writes for tr. aconite in dosage of the new strength (10 per cent.) and a dull brained druggist fills the prescription with some old (35 per cent.) tincture.

In my opinion all of the tinctures had best be dropped from the Pharmacopœia ; they are a useless addition to the long list of medicines, their doses do not compare with the crude drug in a direct ratio, as does the fluid extracts ; and, again, their action is often altered by the large amount of alcohol used as a menstruum and occasionally a dangerous concentration occurs due to evaporation of the alcoholic solvent, thus concentrating a former tincture to nearly a fluid extract strength.

With the fluid extracts there are no such objections, they are more permanent, not sufficient alcohol to alter the physiological actions of the drug used, strength in uniform ratio of drug used, dosage is easily remembered and in every way they are superior to tinctures.

Let us hope that the next or ninth decennial revision of the U. S. P. will drop out the tinctures for the good of all concerned.

If the above random notes have served the purpose of attracting your attention towards matters new in the U. S. P. of 1900, the writer will feel himself amply repaid.

AZOTURIA.

BY I. A. RUBY, V. S., PLYMOUTH, OHIO.

Read before the Ohio State Veterinary Medical Association, January 18, 1905.

This mysterious and occult disease was not chosen as a subject, with the object in view of enlightening the veterinarians of this Association. It is only hoped that something may be said which will provoke a discussion that will benefit us all; however, this paper has been prepared on the presumption that no questions shall be propounded to the writer, and I hope the President will defend your servant by indorsing the presumption. The purpose is to depart to a certain degree from the threadbare doctrines found in the old text books, and think a little for ourselves. The writer has been accused of ignoring text books and "cut and dried" formulæ on certain occasions, but we must not lose sight of them. They are the snub-posts around which we occasionally throw our coil of rope to hold us to our moorings. It is pleasant at times to deviate from the trodden paths of established science, into the byways of nature's undisturbed fields, and now and then pluck some wild flowers that we may carry them back to compare the beauty of their petals with those of their cultured relatives. We are inclined to do a little speculating if we be able to obtain the necessary means without "Chadwicking" any of our fellow practitioners; but hark! while we are, in our imaginations, toying with poetical fancies, an alarm comes from the great chemical laboratory of animated nature.

The contents of some unlabelled test tube or other receptacle has escaped, and coming in chemical contact with other elements, threatens the destruction of the whole apparatus. Two things are obviously necessary, viz.: to devise some means of avoiding a present catastrophe, and learn the nature of the cause in order to prevent a recurrence of the phenomenon. We shall now turn from the fanciful to the real, and note a few observations in connection with azoturia, and endeavor to make deductions therefrom. We note first, that the solidungulous only

are susceptible ; second, that the attack follows a season of rest ; third, emaciated animals are not attacked ; fourth, that the subject is an animal that feeds and assimilates readily ; fifth, that the first symptoms follow a certain amount of physical exercise. The above observations will form a basis for a series of questions, first of which is, why is the disease confined to solipeds ? Is it not much more than probable that it is due to a peculiar feature of angiology in the visceral organs of the horse ? For some unknown reason, according to Dr. Jas. Law, a part of the foetal circulation is not eliminated ; and in consequence a portion of the new and unprepared blood is carried from the portal vein and emptied into the general circulation, skipping the portal circulation, and thereby lacking the elaboration of some partially understood function of the liver. The liver may be in normal condition, and perfectly able to perform the task, but if the work is not brought to its office, it cannot be done. In view of the facts that none but solipeds have this disease, and none but solipeds have this peculiar freak in the circulation, is it not plausible that here is the basis of the pathological process observed in this disease ? This alone, however, will not make clear the various conditions which will arise. It will be necessary to keep in mind the observations above named.

We will not repeat them, but will take them up as necessary in the process of our discussion. We have already put the liver in the sweat box, examined it with reference to its connection with the trouble, and have granted it an honorable acquittal. Other organs, however, become associated with the existing abnormal conditions. The next question to arise is, why will the horse not be attacked while standing ? Instead of taking this question alone and following with others in their order, we shall call a subject into the line of mental vision, and watch the pathological progress and note the results. The horse now stands before you ; he is a good feeder ; he is able to absorb the nourishing elements from the ingesta ; he has been standing idle with good rich food ; he is in a plethoric condition ; his spirits are high and he looks able for fatigue duty ; his blood is laden with

albuminous and nitrogenous matters which are doing no harm, for they are not poisons.

Now bring out the horse. He is hitched, and away he goes with more than his ordinary vigor. As a result he breathes faster and more deeply, and the excess of oxygen, coming in contact with the crude blood above named, in the process of osmosis in the capillary circulation of the pulmonary system, changes the previously harmless elements into urea and hippuric acid, which are poisons. These being produced in large quantities viciate the blood, so that in passing through the ramifications of the cerebral circulation, the nerve centres are functionally deranged and the large plexi appear to become the storm centres. At least the large and powerful muscles which are situated in relation to them are the ones commonly affected. These largely developed muscles, such as the *caput magnum* and *glutens maximus*, having such an abundant blood supply that they may be acted upon topically by the viciated blood in passing through them. The various poisonous elements in the blood, under normal conditions, are excreted by the kidneys, and we find the purest blood in the renal vein. In this disease a vast flow of blood containing the poisonous elements above named, as well as those existing under normal conditions, and perhaps disintegrated blood corpuscles, are forced upon the kidneys and after a vain effort to perform the Herculean task, they fail. The skin as a dear excretory friend flies to their assistance, and after a futile effort and a flood of tears it also gives up in despair, and last of all comes the doctor, but it is not always easy to tell how many animated agencies have been sandwiched between the skin and the doctor. Up to this point nothing has been said with reference to the nosology of the disease, but you will more than surmise that we classify it as a blood disease. The lymphatic system being a part of the vascular system, no doubt has more or less connection with the conditions in azoturia.

Nature is a rigid economist and makes a vigorous effort to prevent any of its material from being wasted. When the animal is at work, the excess of albuminous and nitrogenous mat-

ter is consumed and no ill results follow ; but when he is idle, the rich and nourishing elements are carried to the tissues as usual, and what is not needed to support him in idleness, is again absorbed by the lymphatic glands and poured into the general circulation through the thoracic duct and right lymphatic vein. This will do no harm while he is quiet, as before remarked. How harmoniously the work is carried on when all the absorbing and secreting and excreting glands are able to do the work set before them. In regard to preventive measures, little need be said in addition to what may be implied from the foregoing.

The horse undoubtedly was given to us as a laboring servant, and whenever there is any deviation from nature's intentions, a penalty must be paid unless precautionary means are practiced. Unless the animal is working, the feeding should be moderated and the excretory organs should be kept in active condition. One of the principal unwritten laws of nature might be expressed in a single word ; *work*. But in order that work may be accomplished, the conditions must be favorable. The products of machinery must be taken out of the way that work may continue. A ferment will not act in the presence of its own product. A full tail-race will stop the mill. The questions might be asked—are mares more susceptible to azoturia than horses ? and is the subject in more danger of future attacks because of his having had it once or twice ? I would answer both in the negative. My observation would lead me to answer "no" to the first, as well as the fact that I do not believe the nervous temperament, peculiar to sex, has primarily any connection with the pathology of this disease. I have known very few subjects to have a second attack. This may be due, in part, to the following of advice given as to care in the future, but as I do not regard it as an organic disease, I fail to see the necessity of a recurrence, if the cause of the first attack is completely removed from the system. This leads us to the consideration of the treatment ; and in respect to this, the general directions might be couched in a single word, viz. : *Eliminate*.

Stimulate the bowels, the kidneys, and the skin to their full

capacity in ridding the blood of the offensive matter. Take all feed away in the early part of the treatment, but allow a plentiful supply of water. Throw the governor belt, lift the pop-valve, open the stop cocks, pull out the fuel, scatter the fire, and let the machine run down. Now what shall be said as to specific remedies? I would like to see the list of drugs that have not been prescribed in treatment of this disease. First, if possible, get the patient into comfortable quarters with ample room, and if not able to stand give a deep, dry, and clean bed. If there is danger of self injury, control him mechanically and by means of chloral, or cannabis indica. Give eserine one and one-half grains and pilocarpine three grains, and if not followed by copious evacuations, follow in two or three hours with a bolus of eight drachms of socotrine aloes and a drachm of calomel. Give sweet spirits of nitre one ounce, and elixir of acetate of potash, juniper and buchu, one ounce every two hours, until the kidneys are sufficiently active. Give one ounce of bicarbonate of soda three times a day, until the color of the urine approaches the normal. When further continuance of the above is no longer indicated, finish the treatment with Fowler's solution, one oz., fluid extract of nux vomica one dr., and fluid extract of gentian one dr., given four times a day. Slings may be used to advantage in some cases, but in others they are a decided detriment. The practitioner should be guided by his judgment in each individual case. As to the use of the catheter, little need be said, as that subject was thoroughly discussed at the last meeting of this Association, at which time it was the consensus of opinion that the use of the catheter in all cases where it is possible should be discarded, and superceded by warm applications and digital pressure. Many other points might be mentioned, but no doubt they will come up in the line of discussion. There are many things yet to learn in connection with azoturia, but as in parturient paresis, some one may come up with a simple specific.

In conclusion it might be remarked parenthetically, that, should the morning star of science arise above the horizon of the

veterinary domain, and shed its rays of light upon this disease, discovering and revealing all its intricacies, it is to be hoped that in consideration of the interests of all devoted and legally qualified veterinarians, no government bureau or editor with veterinary proclivities will add further utility to the "bike pump" whose appendix of rubber tubing and milk siphon, hangs in pendulous protrusion from the trouser pocket of farmers, charlatans and empirics.

WILL Secretaries of the State Board of Veterinary Examiners please send their names and addresses to the REVIEW, as we purpose publishing a list of all such boards and their Secretaries. Twenty-two States now have laws regulating the practice of veterinary medicine.

AMBULANCE FOR THE EQUINE.—The *Veterinary Journal*, April, 1905, comments editorially upon the fact that notwithstanding the enormous number of horses that meet with accidents upon the streets of London, it is only recently that provisions have been made whereby maimed or wounded animals can be removed instead of being allowed to lie upon the pavement unable to get up and blocking traffic in many cases for several hours. Through the efforts of a philanthropic society known as the Dumb Friend's League, equine ambulances to the number of five, are stationed in different parts of London and these ambulances are freely placed at the services of the public. We are pleased to state that nearly every city of note in the United States is supplied with both public and private ambulances. The public ambulances are in most instances owned and operated by Humane Societies at an expense to user only sufficient to operate the same. In most of our large cities many veterinary hospitals are equipped with a modern apparatus for the transportation of crippled animals. Ambulances of the equine variety are an absolute necessity in all well regulated cities, for aside from the humanitarian point of view it is a great convenience to be in a position to be able to immediately move disabled animals from the crowded streets, where most of the accidents to beasts of burden occur. We know of no more pitiful sight than that presented by a poor dumb animal unable to rise to its feet and in its unavailing struggles bruising and cutting itself upon the hard pavement. Hence the great need of some appliance that such cases may be removed to some place where the proper attention can be given them.—(*Western Vet.*)

OPEN ARTICULATIONS.

BY DR. W. A. AXBY, HARRISON, OHIO.

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In the veterinary profession, as in all others, there are many difficulties that have to be overcome; but by overcoming these difficulties they prove to be the conditions of our success. A life freed from all its difficulties would be shorn of all its possibilities of power, for power not called into active exercise lies dormant, and, powers suffered long to lie dormant die.

Difficulties are a spur that awakens and compels us to exert our power, this exertion giving us new power. And so out of our difficulties is born new strength, not so much to result in something modern and startling, but rather the correct and scientific use of old means toward acquiring a definite end.

On an occasion of this kind we are prone to recite the treatment of some rare disease or the performance of an unusual operation, but the success of the veterinarian is dependent far more upon his ability to apply the knowledge at his command in a methodical and thorough manner, to the cases in daily practice, than in the performance of a major operation.

Therefore in consenting to read a paper before this Association to-day, I do so, not with the idea of telling you something new, but rather with the hope that something old might be said in new or differently arranged sentences, concerning a "difficult condition," which will lead to a discussion, from which conclusions might be drawn that would be beneficial to all.

This, gentlemen, is the only excuse I have to offer in asking your indulgence for a short time, while we relate our conclusions, based on actual experience and observation, on the surgical and therapeutical treatment of "Open Articulations," one of the most difficult, serious, and frequent traumatic conditions we are called upon to treat in practice; also one given but little attention by authors on veterinary surgery, and in the light of modern wound treatment a condition that is more often improperly treated than any with which I am acquainted. Many vet-

erinarians of to-day are using the same treatment recommended years ago, failing to apply in these cases the rational treatment given simple traumata.

I deem a narration of the symptoms of this condition unnecessary, as you are all familiar with them, but a brief perusal of its pathogenesis will remind us of the serious nature of the trouble.

An open joint is a wound in which common integument, ligaments, and synovial membrane are ruptured, allowing the escape of synovia, and a mode of entrance for pathogenic organisms. These finding an ideal field for development, set up an irritation, causing inflammation, with its attendant train of symptoms; especially synovitis and often arthritis.

Soon after the injury to the joint a limited swelling makes its appearance, and a small amount of pure synovia is discharged. Later, as the inflammation increases we have increased flow of synovia, which coagulates on the wound as an amber colored clot. The joint now rapidly enlarges, becomes painful, then the temperature rises, the animal is restless, and the limb is kept in a constant state of motion; unless it be the elbow or stifle joint. There is total inability to bear weight on the limb, and should the animal lie down there is difficulty in rising.

Emaciation progresses rapidly, the animal is tucked up, the discharge from the joint becomes thin and watery and mixed with pus.

If the case be allowed to progress, the articular cartilage becomes necrotic and ulcerates; allowing the exposed ends of the articulation to come in direct contact. The discharge is now offensive and streaked with blood. The limb is greatly swollen; multiple abscesses make their appearance around the joint, these rupture, terminating in sinuses, which lead into the articulation. The swelling becomes indurated, all the symptoms become aggravated, and unless the animal be destroyed, death will usually ensue in from two to four weeks.

Should the case assume a milder course, ankylosis of the

joint may ensue, the parts to remain permanently enlarged, and if it be a joint of considerable motion the animal's usefulness is lost unless it be for breeding purposes.

One of the essentials in the rational treatment of any condition is a clear understanding of its etiology. In open joint the true cause of the phenomena previously mentioned is sepsis ; or the intrusion of bacteria into the joint.

It would be difficult indeed to imagine a more fertile media for germ propagation than such a wound affords ; the synovial membrane being very sensitive yields readily to their irritating influence.

The germs usually gain entrance into the wound at the time of injury. A true knowledge of the cause of the various changes taking place in the open joint will avail us little in its successful treatment, unless we are enabled thereby to adopt a technique that will not only destroy this cause, but also protect the wound till nature repairs the damage.

The early, thorough and painstaking application of the principles of antiseptic wound treatment fulfills every requisite of an ideal treatment, and the practitioner who does not care to overcome the difficulties attendant upon their proper application in injuries of this kind, need not expect to become famous from their successful treatment.

The use of poultices in treating open joint are never indicated (meaning by this flaxseed, bran, etc.) as they only tend to increase the vitality and development of the germs present. Blisters are little better ; they increase the pain by producing extension of the inflammation to the superficial parts without reducing it within the joint. True, this swelling produced tends to closure of the external opening, but this has but little effect upon the destructive process within the joint, and by retaining the germs, increases the liability to abscess formation.

We will now describe to you a line of treatment that has given excellent results in our practice.

As the condition of the wound at the time treatment is re-

quested, makes a radical difference in the technique, we shall first consider the treatment of a recent case, one in which there is little inflammation. First, inquire into the history of the case; then clip or shave the hair from an extensive area around the wound, wash with iodide of mercury soap and hot water, then with 1-200 Hg. Cl₂ sol. Now the wound may be thoroughly examined without danger of carrying infection into the depths of the joint. Remove all shreds of tissue and foreign material if present, and irrigate the wound with 1-5000 Hg. Cl₂ for 30 min., using for this purpose a fountain syringe with an extra length of tubing fitted with an ordinary milk tube. Should the opening into the joint be very small, enlarge sufficiently for thorough disinfection. The case is now ready for the occlusive dressing; and as the open joint secretes profusely, apply an abundance of absorbent material; first, a quantity of tannoform and boric acid (1-8); over this multiple layers of gauze and cotton, the whole to be retained by a bandage, as immobility of the part is always to be desired. Apply as an external dressing a starch bandage, this not only limits motion but acts as a safe barrier against the intrusion of germs from without.

Should there be no indications of sepsis, as indicated by the usual symptoms, this dressing may be allowed to remain for four or five days; when removed the wound is gently irrigated with hot sterile H₂O and again protected in the same manner.

If the progress of the case under this line of treatment should prove unsatisfactory, the temperature become elevated, and the limb be kept in a constant state of motion, and the wound secrete freely, there has been a failure in rendering the parts aseptic. In this case, remove the dressing, enlarge the original wound and irrigate with 1-2000 Hg. Cl₂ sol. for one hour; then for 30 min. with 1-5000 same sol. and apply an aseptic pack of gauze and oakum, keeping the same saturated with an antiseptic sol. for 24 hours. If at the expiration of this period the symptoms are improved the dry dressing as previously recommended may be employed, this to be changed as necessary and the wound kept bandaged until entirely healed. Should the case be one

of longer duration with severe pain, swelling, unhealthy discharge, and secondary abscess formation, the treatment should be directed first toward thorough disinfection of the joint, and the reduction of the inflammation, this being best accomplished by freely enlarging the original opening and the bold incision of all abscesses. Irrigate freely with antiseptic sol. and inject 5 per cent. sol. of protargol; this non-irritant, penetrates into the tissues and has a specific effect against pyogenic bacteria. The joint should now be enveloped with gauze and oakum and a stream of hot normal salt sol. applied until the inflammation subsides and the pain and discharge has improved, when the dry dressing as previously mentioned is to be applied and changed daily; the joint to be irrigated and protargol sol. injected until the secretions become pure. Should the inflammation in the joint remain to any extent as healing progresses, the use of the plastic dressings, as "Thermofuge" or "Oxychlorine," applied to the entire joint, will assist materially in its reduction, at the same time protecting the wound from further infection.

Where the application of bandages is not practical, as in the shoulder, hip and stifle joint, the swelling is usually excessive; the wound requiring free incision to allow the escape of secretions and thorough application of the antiseptic sol. The parts should be irrigated three times daily with an antiseptic sol. for 30 min., protargol injected, packed with the tannoform, a thick layer of cotton applied, retained by adhesive strips. This absorbs the secretions and effectually excludes all germs.

As healing progresses and the inflammation subsides, daily dressing will be sufficient.

Open navicular joint due to picked-up nail is a common occurrence and unless given opportune and proper treatment either ends in death of the animal or renders it permanently lame. If the case is seen early, remove the shoe, pare the insensitive frog and sole until quite thin, thoroughly disinfect the foot, enlarge the wound, and treat as open joint in any other region, with the exception that tar bandages should be used in all cases of this kind. Where the wound is suppurating freely, the

limb swollen, and the pain severe, excellent results may be expected from passing a small probe-pointed bistoury into the bursæ and enlarging the opening one-half inch in each direction, the granulations curetted away from the old sinus, and the bursa irrigated with 1-1000 Hg.Cl₂ sol. ; this is now removed by sterile water and a sol. of iodine and pot. iod. in sterile water injected; the foot is now enveloped in oakum and kept saturated with a hot creolin sol. The joint should be irrigated twice daily and iodine sol. alternated with protargol injected until the discharge becomes healthy, when the dry dressings may be applied. Should the bone become diseased and the recovery be slow, resection of the flexor pedis tendon should be performed. Curetting away all diseased parts, the resulting wound thoroughly disinfected and retained in an aseptic condition ; for, unless we succeed in thoroughly cleaning the joint the operation will prove a failure.

Open articulations treated in this manner almost invariably make complete and prompt recoveries, the inflammation subsides, the flow of synovia gradually decreases, the wound granulates and heals without suppuration. Should the joint remain enlarged and indurated and lameness persist, the use of blisters or the actual cautery may be beneficial.

The sling should be used in all cases where there is inability to bear weight on the limb for any length of time, bearing in mind the necessity of a properly regulated diet and good hygienic surroundings.

With your permission, gentlemen, I will describe a few cases in various conditions, treated by us in practice, with the results obtained in each case.

Case No. 1.—Called at 7 A. M. to attend a bay road mare, the property of Mr. Wm. Fowler, City. Found a small wound on the supro-internal surface of the hock, due to a kick from another horse inflicted during the previous night. The wound was discharging synovia freely, parts swollen and very painful, with inability to bear weight on the limb. The hair was clipped from the internal surface of the hock, and the parts thoroughly disinfected. 1-5000 bi-chloride solution was allowed to trickle over the wound for four hours, when the pain and swel-

ling had somewhat diminished. The dry dressing as recommended in this article was then applied, the animal cross tied and kept standing. There being no unfavorable symptoms, this dressing was allowed to remain four days; when removed the parts were aseptic, inflammation and lameness entirely subsided. The wound was again gently irrigated with a normal salt solution and protected as before. This line of treatment was persistently carried out for three weeks, when the wound was entirely healed and the animal given the freedom of a box stall. Gentle driving was begun at four weeks, the mare making a complete recovery without scar or filling of hock.

Case No. 2.—A sorrel mare, the property of John Bielman, Sater, O. Open fetlock joint, due to the animal having fallen through a bridge. The wound being located on the antero-internal aspect of the joint the size of a silver dollar, with skin and underlying structures excoriated, laying bare the articulation. The patient was led five miles over a dusty road after the accident occurred. I saw the case eight hours later. The owner had applied lard and turpentine and bandaged the wound, dust and all. The pain was great, leg swollen to carpus and wound filled with dirt and coagulated synovia. All shreds of tissue and the hair around the wound were removed, the part cleaned with soap and boiled water, then irrigated for one hour with 1-2000 Hg. Cl₂ sol., after which the occlusive dry dressing was applied and the mare kept standing. On making the second visit three days later, I found the lameness and swelling entirely abated, and on removal of the dressing parts were clean and the wound filled with a firm clot of synovia, which was removed by irrigation and the dressing applied as before. This wound was again dressed in three days, when granulations were making their appearance over the wound and discharge of synovia greatly diminished. The dressing was now changed every fourth day and at the expiration of 21 days the wound had almost healed and the flow of synovia ceased entirely. As there was slight inflammation in the joint, "Thermofuge" was now applied and changed every second day until at the end of five weeks, the wound being entirely healed, exercise was ordered. There remains but a small cicatrix, being due to the destruction of skin.

Case No. 3.—Bay mare, owned by Dr. J. L. Axby; open stifle joint, due to a kick. The injury was discovered early in the morning, pain was severe, leg swollen, and synovia trickling down to the hoof. The wound was about one inch in length and located antero-inferiorly. This was cleaned as the

others and the wound packed with pure "Tannoform," a pad of gauze and cotton applied, retained by adhesive strips. This was left in position until the following morning, when the limb was badly swollen and the pain more severe than on the preceding day. After again irrigating, hot sterile water bathing was persisted in the entire day, which reduced the swelling and pain. Tannoform again was used and the wound protected as before. This irrigation was used night and morning and the treatment as outlined continued with the addition of 5 per cent. Protargol sol. once daily. The inflammation gradually subsided, the flow of synovia became less each day, the wound being healed on the 20th day. There still remained slight lameness, which responded to a mild blister, leaving neither scar nor blemish.

Case No. 4.—Large bay horse, the property of the city of Aurora, Ind. The horse had been injured three weeks previous, having suffered a nail prick, involving the bursa of the coffin joint. The treatment previous to my visit had been removal of the shoe and the application of flaxseed poultice at night and clay and vinegar during the day. The original opening had been slightly enlarged also. This horse was intensely lame, the limb was swollen to the elbow, coronary band enlarged and purulent synovia discharging from the wound in the foot and from an abscess that had ruptured in the hollow of the heel. Temperature was 105°F. , pulse 70, and respirations hurried.

Treatment: The foot was first thoroughly disinfected and as the insensitive frog was detached, this with a portion of the sole was removed. The region was again cleaned with Hg.Cl_2 sol. and a probe-pointed bistoury passed into the joint and the original opening enlarged freely, and the granulations curetted away, the joint then being irrigated with 1-1000 Hg. Cl_2 sol., rinsed with sterile water and Iodine sol. injected. Tannoform? was now inserted into the joint, and the gauze drain applied, boracic acid was plentifully dusted on the sole, the foot enveloped in oakum and a tar bandage applied. The attendant was instructed to remove the bandage in 48 hours and thereafter twice daily to soak the foot in hot salt sol. for one hour, then irrigate with Hg.Cl_2 sol., injecting the iodine sol. in the morning and Protargol sol. in the evening, packing the abscess cavity and the original wound with Tannoform and bor. acid. Marked improvement was noticeable after the third day, pain decreased, inflammation subsided, discharge less in amount and healthier in color or character. The part was now dressed once daily until at

the expiration of six weeks the wound had entirely healed, a shoe was placed on the foot and the animal exercised daily. Lameness rapidly disappeared, the animal entirely recovering, leaving only the bulb of the heel slightly enlarged.

WRITING PRESCRIPTIONS.—Many veterinarians are beginning to realize that the writing of prescriptions is an exceedingly bad practice for many reasons. In the first place the druggist charges 1,000 per cent. profit in almost every instance and it is impossible to convince the laity that the veterinarian does not get a share of this profit. Then again many druggists will repeat the prescription not only for the original client but for the whole neighborhood, and in this way beat the veterinarian out of legitimate fees. Many druggists will also give a copy of a prescription to the client, a rival practitioner, or any empiric that calls for it. If a mistake is made in writing or filling a prescription the druggist is only too willing to throw the responsibility on the veterinarian. Every veterinarian should, if possible, dispense his own medicines. In this way he will avoid the experience of which the following illustration is a good example. In conversation with a practitioner regarding this subject he stated that the day before, a good client drove up to his office with a horse having a sore back. Having no facilities for dispensing the proper remedy he took the client into a neighboring drug store and wrote him a prescription for a quart of white lotion, for which the druggist charged \$1.75; yet the cost of same, including the bottle, could not have been more than ten or fifteen cents. In this case the druggist obtained all the profit of the transaction, as the veterinarian did not like charging a fee for this simple advice to a good client. On the other hand, had the veterinarian been in a position to dispense his own medicines he could easily have handed the client a quart bottle of white lotion and have collected a fee of from a dollar and a half to two dollars with mutual satisfaction to the client and himself. However, if the practitioner has not the facilities for dispensing medicines properly, it is better to write prescriptions, even if the druggist does reap the profits, than to do as we heard of a veterinarian recently, who dispenses medicine in beer bottles, wrapped up in old newspapers. Unless the veterinarian can do better than this or can exercise the same care as the druggist regarding bottles, corks, labels, and wrappers, it is inadvisable to do otherwise than write prescriptions.—(*Western Veterinarian.*)

RETAINED AFTER-BIRTH IN COWS.

BY SIDNEY D. MYERS, WILMINGTON, OHIO.

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It is impossible to say how soon after parturition the presence of the foetal membranes ceases to be a natural and leads to a pathological condition.

For practical purposes it is usually safe to assume that, if the membranes do not come away in from 24 to 36 hours, they should receive attention.

We have, however, on numerous occasions, found cases that have not run over 24 hours where they were in a state of decomposition.

The causes of retained after-birth may be classed as predisposing and exciting. Among the predisposing we have debility, resulting from preëxisting disease, or from insufficient nourishment, protracted or premature labor, and abortion.

The condition is usually more prevalent in the early spring, especially after a severe and protracted winter, when we find many cows in an emaciated condition. Exposure to cold, and drinking cold water, may also act as factors.

The exciting causes are not well understood, from the fact that the process by which the normal expulsion takes place is not definitely known. Some cases are caused by a too rapid contraction of the os uteri, which may be caused by drinking cold water, or in the case of an animal that has aborted, it may, in some instances, be due to ergot.

Some writers attribute retention to a tardy or suppressed involution of the uterine walls. We can readily see how this may play an important part in some animals, as the mare and the sow, but we cannot see how it would have much effect where the placenta is attached as it is in the cow.

Others find a possible cause in an inflammatory exudate thrown out of the maternal cotyledons causing them to adhere to the foetal cotyledons. This could hardly be true unless the condition existed before parturition, as the foetal cotyledon has,

in reality, become a foreign body, and it does not look reasonable that the exudate would cause adhesions between the two.

The symptoms of retained after-birth are usually plain, the condition, as a rule, being diagnosed by the owner or attendant.

In cases where the membranes are not exposed, some of the following symptoms are usually presented: Dullness, partial or complete anorexia, elevation of temperature, decubitus, suppression of milk, a more or less foetid discharge from the vulva, arched back, and straining. Another prominent and reliable symptom is the absence of the mucous plug, which, if found in the vagina or os uteri, is a good indication that the cow has cleaned.

The treatment prescribed, especially by the older writers, is both medicinal and surgical. The former, except as an adjunct to the latter, is, in our opinion, worse than useless, as it does not seem to be of any benefit, but on the other hand often delays rational treatment.

Among the remedies used for the expulsion of the secundines are savin, rue, coriander, cumin, parched grains and fat meat.

With the possible exception of ergot, the so-called remedies have little or no effect on the uterus. Ergot is advised by some to produce contraction of the uterus, but as it causes a contraction of the os uteri as well, it is contraindicated.

In preparing for the removal of the after-birth the surgeon should attire himself in a similar manner as for ordinary parturition. The clothing should be as little as is consistent with the environments, and should be such as may be readily sterilized with boiling water.

We find an old wool sweater with the sleeves entirely removed, a pair of stout overalls, and a pair of rubber boots, make a good outfit.

The cow should be placed in a narrow stall or tied up close in a corner. An assistant holds the tail out of the way and keeps the animal pushed well over against the side of the stall.

The vulva and surrounding parts should be washed and dis-

infected. The hands and arms should then be washed with soap and warm water, to which has been added some good antiseptic.

The hand and arm that are to be introduced should be anointed with fresh lard which has been mixed with some reliable non-irritating disinfectant, such as creolin, lysol, zenoleum, or such like.

Lard has several advantages over oil or vaseline. It makes a better coating on the arm; that is, the fluids in the uterus do not remove it as quickly as the oil or vaseline, and should it get on one's clothing, as it is very apt to do around the arm holes, it may be washed out more readily than the other lubricants mentioned.

Dr. Liantard writes of a preparation which he attributes to Dr. J. B. Murphy, of Chicago, that may be of service in some cases; I quote him as follows: "After washing his hands for five minutes with tincture of soap, and then rubbing them with alcohol, he dries them thoroughly. Then, pouring in the hollow of one hand a solution of one part of gutta-percha in twenty-five parts of benzine, the whole is spread thoroughly over both hands and forearms, with the principal care at the region of the nails and in the interdigital spaces.

"Keeping the hands open and fingers apart, the coating is allowed to dry. This takes two or three minutes. By this process the skin is covered by an isolating, antiseptic, impermeable, soft, thin and transparent coat, insoluble in water or alcohol, and, therefore, can be disinfected between the various steps of an operation. To remove it only a little friction with benzine is necessary, and underneath the epidermis remains soft and smooth. It has only one objection, which is that when an operation lasts too long, it may break off here and there on the fingers."

However, the application of a little more of the solution of gutta-percha will readily remove the trouble. Some practitioners advocate flushing the uterus with several gallons of an antiseptic solution before commencing the operation of removing

the membranes. We do not do this unless we suspect that septic conditions are present, as the cow, in straining, throws the fluid out on the operator, which makes the task more disagreeable than it otherwise would be. A pail of warm antiseptic solution should be at hand, in which to wash the hands and arms as the operation proceeds.

As stated before, the animal is held by an assistant. We are now ready to proceed with the operation proper. If any part of the membranes are on the outside of the vagina, they should be grasped with one hand while the other is passed gently into the uterus. Light traction should be made by the free hand while the other one follows up the membranes until the first cotyledon with placenta attached is encountered, which should be carefully peeled off, and then to the next and so on until all have been removed. The traction on the outside serves to steady the cotyledon while this is being done. If no part of the secundines are exposed, that part which is first encountered should be loosened and brought out to be held as described.

This operation, in some cases, is quite easy, but in others it is quite tedious and tiresome, especially where the attachments are firm and far down in the horns of the uterus.

We have found in these difficult cases that it sometimes helps matters to inject a quart or a half gallon of warm antiseptic solution. This changes the slimy character of the fluids in the uterus so that the cotyledons may be more readily manipulated with the fingers. This, however, has the disadvantage of causing a contraction of the uterus on the hand, which makes the operation tiresome.

Prof. W. L. Williams advises where the placentæ are enlarged, firm, and rapidly becoming necrotic to twist them off. It is admitted that the surface of the cotyledon is much larger than the small neck that is twisted off, but, on the other hand, we have a fresh wound which is more dangerous than the necrotic surface that has been removed.

It is our aim to remove all of the membranes that can be removed without making any new wounds. We frequently meet

with cases where the os uteri is contracted to such an extent that the hand cannot enter without making a laceration. In such cases the after-birth is usually loose, so that by gentle traction on the outside and with the fingers in the os it can quite often be removed in its entirety.

We never aim to dilate the os to the extent of making a new wound, but trust to the after-treatment, which consists in thoroughly flushing the uterus and vagina with a warm antiseptic solution. The antiseptic which we have found most satisfactory is zenoleum, one and one-half ounces to the gallon of water, which should be injected at a temperature of 100 to 104° F.

The injection should be made with a fountain syringe, which can be made of galvanized metal. It should be fitted with a tight cover and provided with a bail, by which it may be suspended from the ceiling.

The syringe should be made to hold from 8 to 12 pints. Should it be much larger, the depth would be such that in the ordinary stable it could not be elevated high enough to get the desired force. When the syringe is not in use the hose should be detached, washed and placed within the reservoir of the syringe, where it will be kept clean.

In our opinion the common veterinary injection pump is not a proper instrument with which to wash out the uterus, as it is almost impossible to use it without getting more or less filth in the solution. Besides, it is difficult to get a vessel in which the solution should be mixed.

Some advise flushing once or twice daily. This we deem unnecessary, besides it would be impossible in a country practice. We find that one washing in ordinary, and two or three at intervals of two or three days in extreme cases, are usually sufficient.

In irrigating the uterine cavity too much force should not be used or too much fluid injected at one time, lest it pass through the fallopian tubes into the abdominal cavity and there be the cause of peritonitis.

After the uterus has been irrigated we find it is better to allow the animal to be turned out of doors, when the weather is favorable.

There the cow can move about at will ; thus the liability to strain is reduced.

In cold weather the chill should be taken off of the drinking water.

Plethoric animals would, in most cases, be benefited by a dose of magnesium sulphate.

Weak, run down animals should receive stimulants or tonics according to the exigency of the case.

In those cases where there is an elevation of temperature and loss of appetite, we find benefit from fluid extract of *nux vomica* 3ss, carbolic acid 3ss, given in a pint of water or gruel, three times a day. We do not wish to imply that carbolic acid has any direct effect on the blood, but it has a tendency toward rendering the alimentary canal aseptic and thereby having a salutary effect.

The sequelæ are usually of a septic nature, and should be treated as soon as they are recognized according to their individual requirements.

THERE are now seventeen graduate veterinarians in Tennessee ; 26 licenses have been issued by the Board of Examiners. The new law goes into effect on Jan. 1, when only graduates can register.

A SERIOUS OPERATION.—A husband came home one evening to find a note left for him by his wife. Carelessly he opened it, but as he read his face blanched. "My God!" he exclaimed, "how could this have happened so suddenly?" and, snatching his hat and coat, he rushed to a hospital which was near his home. "I want to see my wife, Mrs. Brown, at once," he said to the head nurse, "before she goes under the ether. Please take my message to her at once." "Mrs. Brown?" echoed the nurse. "There is no Mrs. Brown here." "Then to which hospital has she gone?" asked the distracted husband. "I found this note from her when I came home," and he handed the note to the nurse, who read: "Dear Husband: I have gone to have my kimono cut out."

PRACTICAL OBSTETRICS.

BY J. D. FAIR, D. V. S., BERLIN, OHIO.

Read before the 22d Annual Meeting of the Ohio State Veterinary Medical Association
at Columbus, January 18, 1905.

I mean to address more particularly the younger members of the profession. However, I will be pleased if you will all be generous with your past experience, and I hope you will be free in making practical suggestions. I consider veterinary obstetrics a very difficult and complex art, and is attended with a great deal of danger, exposure and hard labor. To be a successful obstetrician it is well to have a thorough understanding of the various methods of manipulation of the different authors, together with original thoughts, good judgment, persistence, determination and a great amount of physical strength. I am located in an agricultural and stock-raising district and the country is rather hilly. The farmers use their mares for all kinds of farm work, which, together with the condition of the country, I think has a tendency to increase the number of cases of dystokia. Making a conservative estimate, I think I have twenty-five cases of dystokia each year in mares and cows. In eighteen years' practice it would make a total of four hundred and fifty cases. Of this number I delivered only a few living colts that matured, but quite a number of calves. I have come in contact with all the different presentations described in the various text-books and many positions and conditions that are not given in the books, and will continue to find new conditions—hence it requires originality, practical knowledge and good judgment to deliver special cases. Cases that were very difficult for me when I first came in contact with them are now comparatively easy.

First, what are the necessary preparations? How should we dress for this kind of work?

Some practitioners have a special suit and keep it there in readiness, made out of canvas, duck or oil cloth, made like overalls, with a waist attached to it without sleeves, buttoned up in

front or back, and after they get through some one can scrub you off with a broom and water, and can be used again. But the suit soon becomes filthy and undesirable. I have adopted this plan: I carry a pair of overalls and ask the owner to furnish me an old undershirt or shirt of some kind. I cut the sleeves out and when I get through I rip it up in the back or front and throw it away. I treat the overalls the same way.

There are a great many obstetrical instruments. Ninetenths are not practical in my judgment. I have a great many and use but few. When I am called to see a case I take with me a pair of French hobbles, a case of embryotomy knives, obstetrical saw, a repeller, a few sharp hooks and blunt hooks, some strong rope and some soft, pliable rope, and chloroform. When I get through I throw the soiled rope away. I avoid the use of all sharp instruments as much as possible. If you use them, be very careful. If the case dies the owner and others assisting may say: "He slashed and cut and with his iron hooks he tore her all to pieces." This may not be just, but for policy sake I do as little of it as possible. I rely on my hand and arm, smooth rope or cord, to bring the parts into proper position. However, if the case demands it, I use and do whatever is necessary to deliver.

I remember well when I was called to see a black Norman mare, with massive quarters, weighing about eighteen hundred pounds. She was found in the morning and her condition indicated that she had been in labor for the greater part of the night. I made an examination and found a sterno-abdominal presentation, two fore and one hind limb presenting. I could see the feet when she had a pain. I could not find the head nor the other hind leg. I concluded that I had a very hard case. The mare was laying down. I put the hobbles on her and proceeded to deliver. I thought of and tried to do a great many things, and failed. Finally I corded the three legs. I pushed the hind leg back into the uterus behind the pubis, then I ordered them to pull on the one front leg and draw it out, and

with safety I amputated at the knee ; this left a nice smooth surface. I made traction on the other and amputated at the knee. I pushed those stubs back into the uterus. The next thing was to secure the missing leg. I brought into the pelvic inlet and the other which I had corded was easy to get. Now I pushed those amputated legs back and forward ; as far as possible push over a point so that when you make traction they will extend. I ordered them to pull on the hind limbs, made a posterior version and delivered. If you can locate the head make anterior version ; be sure to cord all the feet you can find first ; bring the head up ; deliver as far as you can, then amputate ; repel the remaining parts, make posterior version, and delivery will be easy.

I was called to see a gray Norman mare ; I found an anterior presentation. The head and neck were born and I could see three feet. On making an examination I found these to be two front feet and one hind foot. I corraled both front feet and pushed the hind foot back into the uterus ; I flexed the foot on the fetlock and pushed it back as far as I could. I then ordered the men to pull on the front legs. They straightened out, but they failed to pull the colt. I made an examination and I found that the hind leg would not slip back as I expected. The ankle apparently moulded itself into the bed of the uterus and the hock braced itself against the sacrum ; the shaft was too long and I could not move it at all. I tried to rotate the foetus. I tried everything, but could do nothing. I worked until I was almost exhausted. I concluded to try and deliver some other way. I opened the abdominal cavity and removed contents. I cut a flap of skin over the spinal column, divided the body in the lumbar region with my obstetrical saw. I used the flap of skin to cover the divided segment and pushed it back into the body of the uterus. I then corded the legs, brought them up into the pelvic cavity ; posterior version was quite easy and a speedy delivery was accomplished.

I have had a number of those cases ; I have delivered both ways, but to divide the body and perform version is the safest

and easiest way to deliver. Those cases you can deliver in standing position.

A posterior presentation with the hind limbs extended straight under the body of the foetus, extending forward as far as the sternum or elbows, the buttocks entering the inlet of the pelvis, is many times a very difficult condition to meet. The first thing to do is to put the hobbles on them. Elevate the hind parts, then use a repeller (and your arm is the best one to use), push the foetus forward and upward as far as possible. By this time you may be able to reach the tibia somewhere below the stifle; tuck it back inch by inch until you can reach the hock; grasp it and raise it up; bring it up as far as possible, then push it forward and in an upward direction and place it behind the anterior crest of the ilium. Slip your hand down the leg to the foot; flex it on the ankle and with rather a rotary movement bring it up over the pubis past the opposite ilium into the inlet. Proceed with the other leg the same way.

I had a case that I was unable to repel. We elevated the hind quarters and another very strong man and myself were unable to push it back. I used a repeller and put two men on that. We four could not push it back. We made a thorough trial, but did not succeed. I located the hip joints, cut the skin and muscles, tore the flesh with my fingers, reached the head of the femur, fastened a hook to it and ordered them to pull. I cut the tendon and they pulled the leg out very easily. I repeated the operation on the other side. To hook onto the pubis and to deliver the remainder was very easy.

I had a case that caused me considerable trouble. I was mistaken, and still not mistaken. This was an anterior presentation, the head and neck turned back, one front leg entered the pelvis. I soon found what I supposed to be the other front leg; I made sure that I had two knees. I straightened the head and neck, corded the legs and ordered my assistants to pull, but they could not pull it. I made an examination and I found a peculiarity below one shoulder. I supposed it was an undeveloped fifth leg. I took it in my hand and slipped it up over the pubis

past the ilium, then ordered them to pull; I braced the mare and told them to pull hard. They did so, but could not deliver. I told them to stop. I ordered them to pull on one front leg and bring it up with the other, but they failed. I made another examination and found that the one leg was fast to a hind quarter. I shortened their hold by slipping a rope around the body of the foetus, let go of this hind leg and they delivered the colt. This was a three-legged colt. The one leg terminated at the elbow. On that same side the hind leg was always extended forward, over the shoulder and had a perfectly shaped knee. This mare had a large shoe boil on the same side corresponding with the missing leg of the foetus.

In conclusion, I will say: be thorough in your examination; you can frequently locate points and change them per rectum; bring parts within reach in this way. Cast as few mares as possible; use anæsthetics whenever you can with safety; take advantage of contractions and relaxations; be careful and conservative with the use of instruments; use plenty of lard; keep a steady head; learn to reason and think well; make haste by going slow. Do all this and you will be a practical obstetrician.

WHAT'S IN A NAME.—A man with a soft, low voice had just completed his purchases in a store. "What is the name?" asked the clerk. "Jepson," replied the man. "Chipson?" "No, Jepson." "Oh, yes, Jefferson." "No, Jepson; J-e-p-s-o-n." "Jepson?" "That's it. You have it. Sixteen eighty-two—" "Your first name; initial, please." "Oh, K." "O. K. Jepson." "Excuse me, it isn't O. K. You did not understand me. I said 'Oh.' " "O. Jepson." "No; rub out the O. and let the K. stand." The clerk looked annoyed. "Will you please give me your initials again?" "I said K." "I beg your pardon, you said O. K. Perhaps you had better write it yourself." "I said 'Oh'—" "Just now you said K." "Allow me to finish what I started to say. I said 'Oh,' because I did not understand what you were asking me. I did not mean that it was my initial. My name is Kirby Jepson." "Oh!" "No, not O., but K." said the man. "Give me the pencil, and I'll write it down for you myself. There, I guess it's O. K. now."

THE LIVE STOCK INTEREST OF AGRICULTURE AND ITS RELATION TO VETERINARY SCIENCE.

BY HON. FRANKLIN DYE, SECRETARY STATE BOARD OF AGRICULTURE,
TRENTON, N. J.

A Paper presented to the Veterinary Medical Association of New Jersey at its Semi-annual Meeting at Washington Park, N. J., July 13-14, 1905.

An intelligent consideration of this subject requires a knowledge of the number and value of our live stock; the essential character of this industry to the growth and prosperity of other industries, and the necessity of preserving the health of our domestic animals, because of their money value and especially lest, through disease, they become a menace to human health.

As reported by the United States Department of Agriculture, January 1st, 1905, the number, average price and total value of farm animals in the United States are as follows: The number of horses in the United States is 17,057,702, valued at \$1,200,310,020 (\$70.37 per head). The number of mules, 2,888,710, value \$251,840,378 (\$87.18 per head); milch cows, 17,572,464, value \$482,272,203 (\$27.44 per head); other cattle, 43,669,443, value \$661,571,308 (\$15.15 per head); sheep 45,170,423, value \$127,331,850 (\$2.82 per head); swine 47,320,511, value \$283,254,978 (\$5.99 per head.)

In the following table for New Jersey please notice the higher value per head of the same stock in this State as compared with the average value for the United States:

				<i>Difference</i>
Horses . . .	94,278	Value \$ 9,293,580	Per head \$ 98.58	\$28.21
Mules. . . .	4,974	" 564,316	" 113.45	26.27
Milch Cows .	184,618	" 7,261,026	" 39.33	11.89
Other Cattle.	79,599	" 1,591,732	" 20.00	4.85
Sheep	43,344	" 188,841	" 4.36	1.54
Swine	150,988	" 1,570,275	" 10.40	4.41
	557,801	\$20,469,770		

Here is a money value at a low estimate of twenty and a

half million of dollars, equal to \$590.76 for every farm in New Jersey (I take it that the above table does not include horses in cities).

To take care of the health of these animals, we have in round numbers three hundred and fifty veterinarians scattered here and there throughout the State. This would give one veterinarian to every ninety-nine farms, if so many of them were not located in the cities. Jersey City and Hoboken, Newark and the Oranges alone, have over one hundred veterinarians located within them. This leaves for the farms and the other cities and towns, about one veterinarian for every one hundred and forty farms. However, all of our veterinarians are subject to call both in city and country as occasion may require. And it is for this Association to determine whether we have enough good veterinarians in New Jersey at the present time.

The fact that such an Association as this exists and that laws have been enacted within recent years requiring special education for the practice of veterinary science shows that the profession is aspiring to a larger usefulness and a just dignity among the other professions.

Turning now to my second proposition—(the essential character of this industry to the growth and prosperity of other industries): divested of our live stock, what would our farms be worth? They could not all be devoted to truck farming and even if they were, the faithful horse would be needed both in field work and in transportation. And it is worthy of remark in this connection that, notwithstanding the advent of bicycle, trolley car and automobile, horses are higher in value per head than they have ever been before. He is not only the beast of burden in city and country, but also the motive power, *par excellence*, for pleasure driving.

Nor can we eliminate the foster mother of humanity, the dairy cow and her progeny from our business world. Should we do so, the manufacturers of nursing bottles, milk bottles and cans would go out of business. Cream in your coffee, at your hotel, would be a greater luxury than it now is, and beefsteak and

onions for the hearty veterinarian would be a thing of the past. No, we cannot spare the noble horse nor the motherly benevolent cow. Nor will Jew or Gentile be willing to forego the roast lamb from their diet, and most of us Gentiles have a fellow feeling for the hog.

Without going into detail, the merest reference to the place these animals hold in our national economy as food products and in other ways, justifies the assertion that without them other industries, with which they are not so closely identified as they are with agriculture, would be seriously crippled, and the daily diet of their workers would of necessity be greatly curtailed.

The preservation of the health of our domestic animals because of their money value is an important consideration. What the annual loss by unchecked disease, accident, etc., to the domestic animals of New Jersey is, I have no means of knowing, but it is no inconsiderable sum. What it would be without the checks put upon it by the application of veterinary science and skill may be suggested, if we ask to what extent would anthrax spread and what would be its ravages if unmolested. Or suppose we allow glanders free spread among our horses, when and where would it stop?

Or ignoring the possible effects of (the sometimes slow working) tuberculosis among our dairy animals, take no interest in securing those conditions that contribute to health, while preventing disease, nor even remove diseased animals from our dairy herds. What, in a short time, would be the condition of those herds and what the character of their product? And with pleuro-pneumonia, foot-and-mouth disease and many others.

It is in this connection that I wish to emphasize the importance of my fourth proposition : diseased animals a menace to human health.

While some human lives are not worth much to their generation and others an absolute detriment, yet, ordinarily, one human life is worth more than many animals ; and diseases of animals should not be allowed to assail the human race if it is

possible to prevent it. That it is possible to do so, the investigations and practice of veterinary science, in the more recent years, have clearly demonstrated.

As we consider this phase of our subject, either by itself or in connection with the points previously named, the high mission of the veterinary profession appears, and the necessity for an education that combines scientific study with practice. Not only a money value, but human health and human life are also associated in the preservation of the health of our domestic animals.

The profession should give more attention to poultry. According to Secretary Wilson, of the United States Department of Agriculture, "The hens of the country, during their busy season, lay enough eggs in two weeks, at the high prices of eggs that prevailed during the year, to pay the year's interest on the National debt."

The poultry and egg product of New Jersey is more than \$2,000,000 annually. If the diseases of poultry were understood so as to be controlled, the above named sum would be greatly increased.

Our veterinarians should also be able to give the farmers points on breeding for improvement of farm stock. We need now 75,000 well bred cows to take the place of the same number in our herds that pay no profit.

The science of breeding should be better understood by stock-breeders, and educated veterinarians are in a position to help it on among the farmers. Thus a stronger bond of good feeling would prevail between the veterinarian and the farmer.

The farmers have a pecuniary interest in an efficient veterinary science, holding as they do 600,000 head of stock, exclusive of poultry, with a value of twenty and a half million of dollars. It is to their interest, in all cases of serious disease amongst their animals, to immediately call for the services of their veterinarian. Delay frequently means the loss of valuable stock.

For this service they are, or should be, willing to pay a fair compensation and as promptly, at least, as they pay their family physician.

The consumers of meat and milk also have a deep interest in the question of a healthful food supply and, as our intelligent veterinarians are associated with the producers of these products in preventing or curing diseases that may affect their healthfulness, they, the consumers, have an indirect interest in maintaining a high grade veterinary service.

Owing to the necessity of preserving the health of our domestic animals, *because of their money value and especially lest, through disease, they become a menace to human health*, an efficient veterinary service is required : and all that can be done to raise the standard of efficiency in the profession should be encouraged.

THE vital statistics for New York for the past year show that ten hundred and forty persons (1,040) were killed by automobiles, or died from injuries caused by automobile accidents.

GENERAL consumption of horses in Chicago has this year up to the middle of June expanded about 4,000 head as compared with last season. This, despite the depressing effects of the teamsters' strike, shows a most satisfactory state of trade. Arrivals for 1905 total something over twelve per cent. more than for the same period of 1904.

SARCOMATOUS GROWTH OF THE TAIL OF A MARE.—Dr. Felice Cinotti, in *Il Nuovo Ercolani*, for April, 1905, reports the following interesting case : " The history of the various kinds of neoplasms met with on the tails of our domestic animals is rather extensive, and interesting descriptions of many of them may be found in all the veterinary journals, including allusions to their appearance. The following came to the clinic of Prof. Vachetta, of Turin, and is recorded as a contribution to the literature on the subject : In a mare of twelve years a growth began four months before the observation, and grew rapidly. The mare had a very hairy tail, but it was hairless where the growth occurred. This has ulcerated and is as large as a hen's egg ; it is periform in shape, and is on one side of the organ, about fifteen centimetres from the base. Sarcoma was diagnosed, and amputation of the tail ordered, which was performed by the flap method. An antiseptic dressing was applied, and cicatrization was secured by first intention. The growth had not returned five months after the operation. The histological examination revealed its nature to be one of sarcoma, with small round cells."

PURPURA HÆMORRHAGICA.

BY WM. R. HOWE, V. S., DAYTON, OHIO.

Read before the Ohio State Veterinary Medical Association, January 18, 1905.

I am listed to-day for a paper on purpura hæmorrhagica, but we will not call this an essay, it is only a suggestion. Purpura is a disease or morbid condition, well known to all present: so well that it is not necessary to discuss it. There is little said by authorities on the pathology, but we do know that it is the condition that usually follows influenza, or some debilitating disease; that it is usually recognized by more or less extensive swelling in various parts of the body, with more or less weeping or oozing of blood or bloodish serum through the skin on the site of these swellings; that there is a loss of red blood corpuscles, and a lack of coagulating matter in the blood. Also petechial spots are shown on the mucous membrane. We know that it is a progressive disease, and that it is frequently fatal.

There are many known and recognized forms of treatment. I believe that there is now a toxine treatment that has been used with varied success.

The treatment that I propose is, so far as I know, new. With it I have had better success than with any other form of treatment I know. I have treated seventeen cases with but two deaths. These cases have all made a much more rapid recovery than I have ever known under any other form of treatment. The treatment I suggest is spirits of turpentine in large doses, covered with oil. I usually give two ounces of spirits of turpentine in from four to six ounces of raw linseed oil, followed by an ounce or ounce and a half twice a day until swelling and hæmorrhage are checked, then once a day until complete recovery.

Turpentine is a stimulant, astringent, diuretic and antiseptic. I believe it is a natural remedy in this condition; I am quite confident that if followed will give excellent results. Spirits of turpentine is cheap, therefore seldom adulterated, but can be improved in its medicinal action by the addition of one-eighth of its volume of alcohol. This dissolves any resinous bodies that may be left in the solution.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

ANTE-MORTEM BLOOD CLOT IN A HORSE.*

By DR. L. L. DILLER, Iowa.

On March 19, 1904, I was called about five in the afternoon to see a sorrel gelding, owned by Dave Lauterman, living four miles west of Grundy Center, Iowa. When I arrived I found a horse about twelve years old and in good flesh. He had great difficulty in breathing, seemed very anxious and uneasy and at times he would hold his head low in the manger and close his eyes. The jugular pulse was very marked and the jugular looked nearly as large as a broom handle and very tense. The legs were cold and seemed to have poor circulation in them.

I diagnosed congestion of the lungs. The history of the case was that the horse had never had a sick day before as far as the owner knew. He had been hauling shelled corn from a neighbor's place to town the day before, and as the roads were very muddy he had pulled the team rather hard, but did not think he had hurt them. There was a chilly March wind that day and the horse was allowed to stand in it and wait for his load of corn. The owner thought there was a puddle of water where he stood and believed that standing in the water had chilled him. The horse seemed uneasy about noon of the day I was called and had not eaten his dinner.

I had the horse turned loose in his stall, had his legs wrapped in flannel and put a blanket on him. Gave digitalis, belladonna, cannabis indica, and so forth, but got but little results, at least only improvement in the lung symptoms. The horse seemed to ease up some on the cannabis indica.

I began to feel that I had made a wrong diagnosis and commenced to figure out why the jugular pulse was so pronounced, but could not change my diagnosis, unless there was a stoppage in the circulation somewhere.

I stayed with the horse until eleven o'clock, when he seemed a little better and quiet. I left two men with the horse to watch him and give medicine. I told the owner it was a bad case and

*Read before the Iowa State Veterinary Medical Association, Jan. 25-26, 1905.

I thought a hopeless one, and if they thought he was worse at any time to call me again. I was not called again until the morning, when the owner of the horse 'phoned me that the horse was dead, and that he had died very suddenly in the night.

He had been quiet for some time and the men attending him had spread a bunch of hay behind the horse in the back part of the stall, and one had laid down on the hay and gone to sleep, while the other sat up watching the horse. The owner said the horse seemed better after I left and was comparatively quiet, when all of a sudden he raised his head and whinnied, and sat back on his haunches and was dead. The horse in falling fell on the man lying behind him, and if he had been a foot nearer the horse would have killed him. Let this be a warning to us in attending horses in small stalls.

I was interested in the case and told the man not to bury the horse until I came out. I went out and held a post-mortem on him by opening along the median line and up the ribs, so as to expose the lungs. They seemed somewhat congested, but not so much as I had expected. I then opened the abdomen further back and examined the organs in it. There seemed to be little or no disease in this part of the body, so I removed the lungs and made a more careful examination of them. I found nothing abnormal except clotted blood and a rather reddened appearance. I then removed the heart, which seemed to be contracted and rather hard. On slitting open the left auricle I found a clot of blood walled up in a ball-like mass about the size of a hen's egg. I took this out and placed it in a basin of water and found that it unfolded and showed a branched form, and was white in color. I looked for other clots, but found none, and explained to the owner what had killed the horse and that I thought nothing could have been done to save him. I took the clot home with me and mounted it and the branch form can be easily seen.

HELPING THE PROFESSION ALONG.—We notice a very readable account of the late meeting of the American Veterinary Medical Association in the *Breeder's Gazette* of August 23, and from the initials signed to it we suspect our friend, Dr. W. H. Dalrymple, of Louisiana, to be its author. This loyal veterinarian never permits an opportunity to escape him where it is possible to dignify his profession and to keep it prominently before the public. May others follow his good example!

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ARMY VETERINARY DEPARTMENT.

THE VETERINARY BILL AND THE A. V. M. A.

In the report of the recent meeting of the American Veterinary Medical Association at Cleveland, Ohio, will be found a ringing set of resolutions, praying the President of the United States to give an attentive ear to the plea of the veterinarians in the Army. The adoption of the resolution carries with it instructions to the President of the Association to appoint a committee to seek an audience with President Roosevelt and to deliver the memorial into his hands, and to personally urge him to approve the measure.

ARMY VETERINARY NOTES.

CHAS. H. JEWELL, Vet. 13th Cav., arrived at Fort Riley, Kansas, Aug. 19, from Manila (July 15), where he is detailed as Instructor in the Farriers' and Blacksmiths' Schools.

THE months of August and September constitute the season of marches, camping and manœuvring in the Army, and our military colleagues are nearly all absent from their garrisons, either in camps of manœuvre or for target practice of artillery.

SOME changes of stations of cavalry regiments, just announced by the War Department, will bring about an exchange of several army veterinarians between the States and the Philippines. The 4th Cavalry is to embark for foreign service by the end of August, which would take away Drs. Plummer and McKibbin, but it is hoped that Dr. Plummer will be retained at Fort Riley, Kan., in his position as senior instructor at the school for farriers and horse-shoers, a position which he has filled so well during the last three years. The 3d Cavalry will embark in November, which takes Dr. Schwarzkopf away from the States. With the return of the 14th and 2d Cavalry from foreign service, Dr. Peter, 14th Cavalry, and Drs. Lusk and English, 2d Cavalry, will arrive home for a well-earned change to a more congenial and healthy climate.

MOVEMENTS OF ARMY VETERINARIANS.—The following changes in the stations and duties of veterinarians are ordered by the War Department under date of July 18: Veterinarian Lester E. Willyoung, A. C., upon the completion of his duties

with the 2d Provisional Regiment, Field Art., will proceed to Fort Riley for duty in the Training School for Farriers and Horseshoers and with the Field Artillery batteries at Fort Riley for a period of one year, relieving Veterinarian Richard H. Power, A. C. Veterinarian Power will proceed to Fort Sam Houston, Texas, for duty with the 2d Battalion, Field Art. Veterinarian Charles H. Jewell, 13th Cav., upon his arrival in San Francisco, will proceed to Fort Riley, for duty at the Training School for Farriers and Horseshoers for a period of one year, relieving Veterinarian John H. Gould, 11th Cav., who will join his regiment.

THE STATUS OF THE VETERINARIAN IN THE ARMY.—The War Department has received many complaints from contract surgeons against the ruling that they are not entitled to campaign badges to be issued for war service except when they perform service as an officer or enlisted man. The attention of the Department is called to the fact that under the orders of the Secretary of War veterinarians are, however, entitled to wear such badges and it is claimed by the contract surgeons that they have been unjustly discriminated against. In some interesting opinions on this subject the Judge Advocate General of the Army goes extensively into the status of a contract surgeon and a veterinarian. He calls attention to the fact that the issue of campaign badges is restricted in General Orders No. 4, 1905, to "officers and enlisted men in the Service" and the right to wear them is restricted to the "officers and enlisted men to whom issued," and it is his opinion that under existing orders a contract surgeon would not be authorized to receive, or to wear a campaign badge even though his service had been such as to entitle him to receive it. "Paragraph 61 of the Uniform Regulations," Judge Advocate General Davis says, "is sufficiently broad to authorize a contract surgeon to wear the campaign badge, but his right to do so is defeated by the restrictive language which is used in General Orders No. 4. If it be thought proper that the campaign badge should be issued to and worn by contract surgeons whose service has been such as to entitle them to it, that end can be obtained by such a modification of the requirements of General Orders No. 4 as will bring it into harmony with Paragraph 61 of the Uniform Regulations." General Davis, with regard to the status of veterinarians, calls attention to Section 2 of the Act of Feb. 2, 1901, which establishes the office of veterinarian in each regiment of Cavalry therein provided for. "A subsequent section of the same enact-

ment fixes the pay and allowances of the office so established," he says, "by requirement that the veterinarians thereinbefore authorized shall receive the pay and allowances of second lieutenants mounted. The office so established is a military office which vests in a particular appointee as the result of an exercise of the appointing power; which is vested in the Secretary of War by Paragraph 200 of the Army Regulations of 1901. Veterinarians are not commissioned officers because their appointments are not made by the President with the consent of the Senate, and are not evidenced by commissions signed by the President; but they are provided with appointments in writing signed by the appointing power, and in all matters relating to pay and allowances, including the clothing allowances, they are assimilated to commissioned officers. It is therefore the opinion of this office that they are entitled to wear the distinctive badge for service in campaign and should be furnished with the badge at cost price."—(*Army and Navy Journal*.)

INFECTED WHILE INJECTING TUBERCULIN.—While testing some dairy cows recently Dr. Richard P. Lyman, of Hartford, Conn., met with an accident that laid him up for ten days or a fortnight. Dr. Lyman was injecting a cow with tuberculin when she kicked wickedly, driving the needle of the syringe through the Doctor's thumb. It is not certain whether some of the tuberculin went into his thumb or not. The wound, however, became infected and blood poisoning set in, and the Doctor was soon a very sick man. We are glad to be able to state that he has made a good recovery.

PROCEEDINGS OF THE CENTRAL CANADA ASSOCIATION.—We have received the printed proceedings of the third annual meeting of the Central Canada Veterinary Association, held at Ottawa, Feb. 8 and 9, 1905. It contains the Constitution and By-Laws, the minutes of the meeting, the papers read and the discussions thereon, together with a list of the active and honorary members. It is edited by the Reporter, Dr. Chas. H. Higgins, Ottawa.

THE NEW EMPIRE STATE EXAMINING BOARD.—Governor Higgins has selected the following five gentlemen from the list of ten given him by the State Society to act on the Board of Veterinary Examiners for New York:—E. B. Ackerman and C. E. Clayton, of New York City; Thomas F. O'Dea, of Saugerties; William H. Kelly, of Albany, and A. G. Tegg, of Rochester.

SURGICAL ITEMS.

BY L. A. AND E. MERILLAT, CHICAGO.

1. *The Merit of Tetanus Antitoxin* as a preventive against tetanus was recognized by veterinarians as early as eight years ago. During the past five or six years it came into general use in the veterinary profession, which circumstance gives to us the credit of demonstrating its worth, as it is only during the past twelve months that the human surgeon has given much attention to this valuable prophylactic agent.

2. *Post-Operative Pneumonia*, with a wider application of surgical operations to the cure of domestic animal diseases, the subject of post-operative pneumonia becomes more and more important. The susceptibility of animals to pneumonia from surgical operations, while not as great as in the "weak-lunged" human being, is sufficient to give the veterinary surgeon who operates a nominal number of cases of this character, and hence warrants some attention. Post-operative pneumonia is always serious and more often fatal than other forms of the disease. The causes leading to the disease are as follows: (1) The aspiration of foreign or putrid matter into the air passages; (2) hæmorrhage into the lower air passages; (3) the irritation of inhaled anæsthetics; (4) emboli flowing into the lungs from ligated veins; (5) exposure to drafts or cold of animals recently debilitated by an operation; (6) exposure of animals to infectious diseases of the air passages, prior to or soon after operations. The prevention of post-operative pneumonia must vary with the probable cause. Aspiration of insulting matter into the lungs must always be taken into account as a possible accident of operations performed in the recumbent position, and especially when an anæsthetic is administered. In the ox regurgitated ingesta in large quantities may find its way down the trachea; the dog may vomit and aspirate the mass into the lungs; and the horse is always liable to inhale pus, blood, saliva or medicants when operations are performed along the course of the air passages; blood in any considerable quantity must in some manner be prevented from finding its way downward into the lungs. Anæsthesia must not be unnecessarily prolonged and must be avoided in susceptible subjects. Animals subjected to the trying ordeal of a painful operation must be well cared for by keeping the body warm and comfortable, which precaution will also limit, if not prevent, pneumonia from emboli.

3. *Appropriate Appliances to Secure Patients* should not be wanting in a veterinary surgeon's equipment. A shoemaker without a bench or a blacksmith without a forge is no worse off than the veterinarian without the standard apparatuses to restrain his patients. What is meant by "standard apparatuses" is: (1) An operating table for hospital operations; (2) a casting harness for field work and for operations that cannot be performed upon the table, *i. e.*, cryptorchid castration, herniotomy, etc.; (3) a side-line for "standing" operations; (4) a table for canine and feline operations.

4. *The Surgical Clinic at the Cleveland Meeting*, thanks to the local committee of arrangements, exceeded the highest expectations. The roomy place, the various methods of restraining patients, the seating arrangement, the variety of instructive cases, and the humane and skilful methods of operating, proved more than satisfactory to all who were fortunate enough to attend. Those who are specially interested in the advancement of surgery will join with the masses and laud this clinic, but will continue to guard against the recommendation of some past clinics the A. V. M. A. has stamped with approval. Let us hope that future committees may be able to follow the example set by the local committee of arrangements at Cleveland.

A PECULIAR CASE [*Andrew E. Donovan, D. V. S., Veterinarian A. C., Vancouver, Barracks, Washington, in "Western Veterinarian"*].—A two-year-old stallion was brought to me on the eighth of April, with a discharge of pus from the scrotum. About a year before he had been placed at pasture on an old logging ground, and when taken up three months later was very emaciated. After feeding well on a grain ration he took on flesh and although the owner noticed a discharge at that time he did nothing concerning it. The animal being cast, examination revealed a tubular formation in the median line of the scrotum between the two testicles. This was about four inches long and discharged a large amount of pus. A probe inserted stopped at a hard foreign substance. The animal was anæsthetised and the tube split with a straight bistoury, making an opening about an inch long through the skin and running the entire length of the tube. I inserted forceps and after some manipulation removed in two parts a piece of charred Oregon fir two inches by one and one-half inches by one-half inch. After irrigation with an antiseptic solution the animal was released and made a speedy recovery.

EXTRACTS FROM EXCHANGES

ENGLISH REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

A CALCULUS IN THE SMALL INTESTINE [*W. Barling, M. R. C. V. S.*].—The presence of a calculus in that portion of the intestinal tract is rather a rare occurrence. It was found in a stallion which had colicky pains, received colic draughts without result, and notwithstanding subsequent treatment of chloridine and cannabis indica, of morphia and atropine, chloral administrations, sedatives, fomentations, etc., finally died. At the post-mortem the stomach was found distended with fluid and gas. The small intestine was inflamed, and in it there was found a calculus weighing 1 lb. 7 oz. The author says: "It is difficult to imagine the obstruction to have formed there and it is almost more difficult to think that it could have moved forward from the large intestine. A portion of the jejunum was bulged and thin, where no doubt the calculus had rested for some time, as it was found some three or four inches posterior to this and almost two feet from the stomach.—(*Vet. Record, March 11.*)

LIGHTNING STROKE IN ANIMALS [*James Smith, M. R. C. V. S.*].—A previous article on the subject suggests to the writer the propriety of recording this "outbreak of lightning stroke." One day a severe thunder storm occurred, and after a particularly vivid flash of lightning the author said to a friend that possibly he would hear of some damage done by it. The following morning he was called to a mare, down in a field and unable to rise. Her head was enormously swollen as in a bad case of purpura, dark colored blood oozed from her nose; she laid with her chin resting on the ground. The mucous membranes were livid color. The breathing stertorous, pulse imperceptible. The mane behind the poll was distinctly singed. Diagnosis, struck by lightning. The animal was destroyed. An hour later, the author was called to see a dead horse on a wide unprotected pasture, where he had been turned out. He had a distinct punctured wound penetrating the chest, about six inches behind the shoulder. The wound was the size of a florin and its edges distinctly charred. A few minutes after he

was called to another dead horse. This one had tried to shelter himself under a hedge and had been knocked through the hedge and across a dyke into the next field. He showed no signs of lightning stroke. These three cases were in a direct line from north to south, the direction followed by the flash, and about one mile and a quarter the distance between the outside cases. In a professional point of view, it is to be regretted that no careful post-mortem examination was made, but the history of the cases, the condition of the bodies and the surroundings seem to warrant an opinion as to the cause of death.—(*Vet. Record, March, 1905.*)

POLYPUS OF UNUSUAL SIZE EASILY REMOVED (*J. A. Meredith*).—A black charger, seven years old, is examined, and a sloughing growth is detected in the near nostril situated a little distance up. Taking hold of the mass it gradually comes down and drops in the hands of the writer. A small hæmorrhage follows, the animal coughs some, but soon everything returns to its normal condition after the use of a few cold douches. The mass proved to be a large polypus, which measured 11 inches in its peduncle. The horse was not a roarer; he had a queer temper previous to the removal of the polypus; now he is perfectly quiet and does his work well.—(*Vet. Record, March, 1905.*)

HÆMATURIA IN A BULL FOLLOWING RUPTURE OF RENAL VESSELS [*H. A. Reed*].—At the Serum Institute of Cairo an Egyptian bull was kept to furnish rinderpest serum; he had already furnished forty-four litres of his blood to that effect, when one day, as he was going to be bled, it was noticed that he passed blood in the urine, blood which coagulated rapidly. As he seemed otherwise in good health, no special treatment was directed. A few days later the hæmaturia had ceased and it was supposed that the animal was well. Two days later blood reappeared. As the animal was losing in condition, he was bled to death for serum. At the post-mortem it was found that severe internal hæmorrhage had taken place. The bladder was distended and completely filled with blood. On removal of the right kidney, the capsule was found separated from the organ by a blood clot two inches thick. There were small hæmorrhages in the medulla of the gland. The renal vessels were dissected with difficulty, but no definite rupture could be described. The right psoas muscles were also blood stained and softened.—(*Vet. Record, April, 1905.*)

ABNORMAL INGUINAL OPENING—ESCAPE OF INTESTINE—

RECOVERY [*A. Maynard, M. R. C. V. S.*].—The author has castrated about 30 ridglings and has never met with such a condition. A four-year-old horse is to be operated upon. Cast and secured, no testicle is detected on the right side; that of the left is largely developed. The skin is divided and a large quantity of fat is found over the right inguinal canal, and instead of the ordinary opening with strong pillars formed by the oblique abdominal muscles, nothing is found but a large slit extending from one commissure to the other. The hand, introduced in the abdomen, feels for the testicle; none is found; the horse struggles, and an enormous mass of the single colon escapes. With great difficulty it is returned into the abdomen, after careful washing, and the opening closed as well as possible with carbolyzed catgut. Desirous to finish the operation, the writer looked for another opening, and midway between the prepuce and the inguinal canal he found another slit, similar to the first, but smaller, and right beside it the testicle, which was removed with the ecraseur. The abdominal opening was closed, the wounds packed with oakum dipped in creolin solution and the skin stitched with silk. The same evening the horse had high fever, but the next morning appeared more comfortable. Convalescence followed its course, and the animal recovered in comparatively short time.—(*Vet. Record, April, 1905.*)

ACCIDENTS FROM BEING CAST IN STALL.—*Dislocation of the Tibio-Astragaloid Joint* [*W. A. Schofield, Lieut., A. V. D.*].—A horse was reported as having broken its leg during the night. He was found lying on the off side with the heel of the near hind shoe caught fast in the head collar. The collar was cut and the leg released, when it was found to be broken. There was a complete compound dislocation of the tibio-tarsal joint of the near leg with the lower end of the tibia protruding through the skin. The animal had no disease of the bony structure and must have struggled considerably to produce such lesion. . . . *Dislocation of the Cervical Vertebrae—Recovery* [*W. Mole, M. R. C. V. S.*].—Found cast in his stall, early in the morning, he is unable to get up by himself, but does so with help, when his neck is observed to be twisted in a peculiar position. The head was pendulous and swung from side to side. In walking the horse knuckles over on the hind fetlocks. The curved condition of the neck indicates that it is due to the fourth or fifth cervical vertebra. "A thick woollen rug was bound round the neck, enclosing a short length of board, and one of the attendants instructed to hit a sharp blow at the spot indicat-

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ed,* at the same time pulling firmly on the head by means of head stall." This was done, the blow staggered the horse, he fell and a sharp click was heard. The horse laid down for two hours, then gradually lifted his head, and got up with a slightly sore but straight neck.—(*Vet. Record, April, 1905.*)

BELGIAN REVIEW.

By Prof. A. LIAUTARD, M. D. V. M.

DIAPHRAGMATIC HERNIA OF THE RETICULUM IN A COW—CHRONIC TYMPANITES AND PSEUDO-PERICARDITIS [*Prof. Lienaux*].—The cow is six years old; for a few weeks she has suffered constantly with tympanites and eats poorly. She is indeed in very poor condition. The following symptoms are observed: pulse weak but normal in frequency; mucous membranes pale; jugular veins at intervals are largely developed and prominent; there is no œdema or swelling of the lymphatic glands; temperature around 38° C; sublumbar glands normal to the touch by rectum; there is permanent not excessive tympanites; fæces normal. The respiration is very slow; exaggerated sound indicates emphysema. The heart's beatings are felt on the right but are imperceptible on the left. There is no cardiac dullness; but on the contrary, dullness on the lower third of the right costal region. The beatings are absent on the left and well heard to the right. These symptoms are resumed in chronic tympanites and troubles about the heart. As the animal is very low she is destroyed. At the post-mortem there was found an infrapericardial tumor, formed by a portion of the reticulum, which was protruding in the thorax through two circular rings of the diaphragm—one situated on the median line immediately above the sternum, the other more on the left. The portion of the organ passed through the first opening was as big as a child's head, that through the second ring as large as the fist. The fibrous and regular borders of the rings were adherent to the protruding organ. The meteorism was easily explained and another cause can be added to the list of those that give rise to it, viz.: diaphragmatic hernia of the reticulum.—(*Annales de Bruxelles, March, 1905.*)

THE INFLUENCE OF PREGNANCY UPON THE APPARITION

* (Where the spot was, is not mentioned by the writer of the article.)

OF CHRONIC HÆMATURIA IN BOVINES [*M. Delcroix*].—In 1902 the author was called to visit a ten-year-old cow which was urinating blood. She was in good condition, eight months pregnant. The hæmaturia appeared some six weeks or two months before. The same symptom was observed the year before, sometime before delivery. At that time the urine was only tinted red and the trouble passed away as soon as delivery took place, but now the coloration of the urine is much more marked; simple tonics were prescribed, with no result. The cow delivered a calf in due time and the hæmaturia subsided at once. Fearing another repetition of the trouble the cow was not taken to the bull the next year, but in that following, she again became pregnant, and the hæmaturia symptoms reappeared in the fifth month, and the animal lost condition so fast that she had to be destroyed. Since this case the writer has had several others, and it is not an uncommon thing for him, when inquiring among his clients as to the frequency of this accident, to have had the same answer: "This is nothing, our cow makes blood when she is in calf, but we pay no attention to it, as it passes off as soon as the calf is born."—(*Annales de Bruxelles, April, 1905.*)

LARYNGEAL ECCHONDROSIS IN A HORSE THAT HAD HAD STRIDULENT LARYNGITIS [*A Vanden Eeckhout*].—The observation was made on an old mare. She suffered some ten years ago with stridulent laryngitis characterized by loud roaring. When the acute symptoms subsided she remained a roarer, but was, however, able to perform a certain amount of work. She died by intestinal strangulation. At the post-mortem the larynx was carefully examined and presented the following lesions: The right arytenoid cartilage is thickened in its whole extent and its internal face is the seat of a hard swelling, elongated and having the shape of a cone. This swelling is three and a half centim. in length and is half a centimetre thick. It forms a kind of growth ending by a rough and projecting tubercle, which is in contact with the opposite arytenoid. The mucous membrane of both cartilages has lost its epithelium and is rather roughened. The right vocal cord is more prominent and the right lateral ventricle is largely developed. The anterior opening of the larynx is irregular. And considered by the subglottal portion it is observed that this is narrowed and that there remains but a small slit, due to the obliquity of the left cartilage and the right occupying half the laryngeal canal. In the lower part the tubercle is observed passing beyond the me-

dian line. The aspect presented by the glottis and the subglottal cavity explained the roaring produced by the tumor, which on minute examination presented the characters of fibro-cartilaginous texture—it was an ecchondrosis. The muscles of the larynx were free of lesions and they were not atrophied.—(*Annales de Med. Vet.*, June, 1905.)

THORACIC TUBERCULOSIS—SIGNS OF PSEUDOPERICARDITIS IN A COW—TUBERCULOUS PERICARDITIS [*E. Lienaux*].—This heifer has no clinical history. Her appetite is good and the digestive functions are perfect. However, minute examination revealed respiratory and circulatory troubles. Her respiration is accelerated (48), she has a dry and strong cough; there is no nasal discharge. Percussion indicates bilateral dullness in the lower part of the chest, a little less marked on the right. Auscultation gives on both sides loud moist râles. The heart is felt beating on the right more than usual; it is not on the left side. Jugular veins are dilated; there is no œdema. Prescapular and mammary lymphatic glands are swollen. Temperature varies between 39.5° and 40° C. Tuberculin gives a negative result, but without it there was no doubt of the diagnosis of tuberculosis. At the autopsy were found a massive tuberculosis of the anterior and middle lobe of the left lung and pleura, with big tubercular products uniting the parietal and visceral layers of the serous membrane. There was also an enormous tuberculous abscess in the lung and pressing against the pericardium, which is pushed to the right. The pericardial cavity is filled with tuberculous products, forming between the layers a complete synechia, two centimetres thick. The heart was small.—(*Annales de Med. Veter.*, June, 1905.)

THE color of milk is a poor guide by which to determine its richness. In many cases it is very misleading.—(*Wagg*.)

DR. FENIMORE, of Los Angeles, Cal., holds the record for colic cases; over thirty in one day.—(*Western Veterinarian*.)

DR. JAMES MCKEE, of Stapleton, S. I., died recently. He was a graduate of the New York College of Veterinary Surgeons and was a member of the A. V. M. A.

DR. R. T. WHITTLESEY, of Los Angeles, Cal., reports that he has used splenterine, or white rock hoof packing, in the treatment of pneumonia with splendid results. He covers the sides of the chest an inch thick and over this several layers of cotton and a many-tailed bandage.

SOCIETY MEETINGS.

AMERICAN VETERINARY MEDICAL ASSOCIATION.

The forty-second annual meeting convened in the large Assembly Room of the Hollenden Hotel, Cleveland, Ohio, at 10 o'clock A. M. on Tuesday, Aug. 15, and was called to order by President M. E. Knowles, of Montana, who in a few words introduced Hon. Tom L. Johnson, Mayor of Cleveland. The world-wide chief executive welcomed the large gathering to his city in the most cordial words, expressing the greatest confidence in the future of the profession, though acknowledging that his own heart had gone over to the automobile for pleasure riding. No meeting of the A. V. M. A. ever occurred with so many members and visitors in their seats at the drop of the gavel; a large number of ladies and children witnessing the ceremonies. At the conclusion of the Mayor's address, the President called upon Dr. Roscoe R. Bell, of New York, who, addressing the host on behalf of his colleagues, warmly thanked the citizens of Cleveland for their hospitality, and gave a short sketch of the status, aims and ambitions of the National Association.

President Knowles then read his annual address, which was as follows:

THE PRESIDENTIAL ADDRESS.

"Gentlemen:

"The field of advice, suggestion for the betterment of the veterinary profession of America, even the rapid progress of our profession has been so ably covered by my learned predecessors that it is extremely difficult to find a new theme of even passing interest for discussion. You are all cognizant of the necessity for improving educational facilities in a number of our colleges, and I am pleased to say progress in this direction is being slowly but certainly made, largely, if not wholly, through the untiring efforts of this Association. The general condition of prosperity of the profession in America has never been so good as it is to-day, and there is every reason to believe that the usefulness of the veterinarian is increasing rapidly as the lay public more fully recognize the value of the educated veterinarian's services, not merely as a practitioner alleviating the suffering of our domestic animals, but in the still higher sphere of the sanitarian.

"The value of the veterinarian as a sanitarian is inestimable,

particularly relative to the prevention of disease, suffering and death among the human family by the prevention and repression of animal disease communicable to man. While his mission as a practitioner is a most noble one, the part he plays in preserving human life is far more important. To be better able to be of greater service to humanity, every veterinarian should make a close study of comparative medicine, and, particularly, inform himself as to the symptoms in man of the various well-known communicable animal diseases, notably glanders, since this of all animal diseases communicable to man is so infrequently recognized by the average practitioner of human medicine.

"The transmission of milk-born diseases should receive no little attention from the veterinarian, to the end that he may be the prime factor in the prevention of numerous child-destroying diseases.

"The cultivation of the friendship of the human physician in the sphere of your practice, and the frequent discussion of animal-born disease, will be of mutual benefit and redound to the advantage of public health. Keep always in mind the necessity for and nobleness of preventing the dissemination of animal disease communicable to man and the preserving of human life, not neglecting the fact that this grand accomplishment has, so far as the animal is concerned, both the humanitarian and commercial view point.

"During the past year Pennsylvania has recognized the importance of the veterinarian as a sanitarian by making our distinguished colleague, Dr. Leonard Pearson, a member of the State Board of Health. I congratulate Pennsylvania on the exercise of such an excellent selection.

"It is largely within our power to see to it that every State in the Union has upon its board of health a capable veterinarian. Let us make vigorous efforts in this direction by a strenuous attempt on the part of each member of our Association, and collectively, to show the medical profession and the lay public the important relation of animal disease to public health. Nothing will contribute to your success and standing more than to make yourself indispensable to your fellow-man. Is there a better method of so doing than by protecting his health?

"A number of our States now have fairly good live-stock sanitary laws that are being intelligently and vigorously enforced, which means that much good is being accomplished toward the prevention and repression of contagious and infectious animal disease.

"Our Bureau of Animal Industry, under the efficient direction of Dr. Salmon, is doing a great work and rapidly increasing its scope, giving position and standing to a large number of veterinarians.

"The veterinary sanitary service of Canada under the direction of that most progressive veterinarian, Dr. Rutherford, has made wonderful strides during the past few years under his capable direction, and is giving desirable positions to numbers of capable veterinarians.

"A connection with the sanitary service of a Federal, State, or Municipal government tends to give standing and position to the individual and certainly enhances the value of our profession as a unit; but the individual practitioner must obtain social and commercial position through his own effort, which I again say he has within himself to do, largely by convincing the public through deeds of worth and value of being necessary to their welfare.

"It is believed some advance has been made toward army legislation. I certainly trust this is true. We, as an association, must continue to make every endeavor in our power to the end that the veterinary service in our army at least equals that of the armies of England, Germany and France. It is much to be regretted that ours, the most progressive nation in the world today, is the only one refusing to give rank and properly deserved recognition to our veterinary service in the army.

"Feeling that it was fully the sense of the Association, and acting by and with the advice of your Executive Committee, at the urgent request of Ex-President Bell and many other members of our Association, I signed a warrant immediately after our 1904 meeting, for \$100, as a contribution to the Nocard Monument Fund. You will remember that Dr. Bell made a strong plea for such action on the part of the Association in his annual address, but unfortunately the matter was overlooked during the rush of business incident to our 1904 meeting, and was unfortunately neglected. I fully believe that it was the unanimous opinion of the Association that this slight contribution on our part should be made to the memory of this most distinguished member of our profession, not alone because he was an honorary member of our Association, but on account of his most valuable work and contributions to veterinary literature. I trust the Association will sustain my action.

"I would suggest, upon the recommendation of the Chairman of the present Programme Committee and the advice of our ex-

cellent Secretary that the Programme Committee be abolished, and that the work be, as it was prior to this year, left in the hands of our efficient and capable Secretary.

"I cannot close this brief address without some reference to that distinguished American citizen and patriot, the Mayor of this beautiful city.

"We have the good fortune to meet this year in what is not only one of the most beautiful of the many beautiful American cities, but, what is of far greater importance to the citizen, in what a writer who knows says is the best governed city in the United States. That writer, Lincoln Steffens, attributes the excellent and most honest government of this city to the magnificent civic spirit of its people, led by Mayor Tom L. Johnson. As members of a scientific profession we should take a more than passing interest in Mayor Johnson, his methods and his position among the wealthy men who take an active part in what we call politics.●

"We are more than professional men. We are citizens, and were citizens before we were veterinarians. As members of a scientific profession we owe to the State the duty of standing for what is best and most scientific in the great organization that we call 'Government,' and we may learn a valuable lesson from the career of Mayor Johnson. Possessed to an unusual degree with the ability to get money, his civic spirit and his love for his fellow-men have prevented him from degenerating into that most worthless type of the animal creation, a mere human machine for collecting dollars. I am aware that Mr. Johnson is spoken of as a 'crank' by many of his fellow-citizens; but what man in all history who had ideas for the elevation of the human race has not been called a crank? In my State and in other States men have been called cranks and fools because they refused to sell their votes as citizens or as legislators.

"Of Mayor Johnson it cannot be said that he is content to collect dollars, and that having collected them he is indifferent to the needs of his city, his State and his fellow-men. So, let it not be said of us that we are content to exist as mere collectors of fees for our professional services, and that having got our fees we are indifferent to the welfare of our cities, our States and our country. As members of a scientific profession we should recognize the fact, as citizens, that there is a Science of Government, and that otherwise government would have no right to exist, just as we recognize the fact that Veterinary Medicine has no right to exist except as a science. Mayor

Johnson had a national reputation before he became mayor of Cleveland, but as mayor of this city he has made a new national reputation, because in practice as in theory, he refuses to uphold unscientific methods in government.

"Let us, then, as workers in our Science, refusing to uphold unscientific methods in our profession, stand firmly against unscientific methods in the greater and more important field of government. Let us recognize such men as Mayor Johnson as our co-workers in science. We will add but little to the progress of humanity if we confine our efforts to the prevention and cure of the diseases of animals, and neglect the diseases of our civil, our political life. We add to the wealth of the Nation by preventing and curing the diseases of dumb animals, and whether or not we have the same beliefs as Mayor Johnson, let us stand with him in his efforts to prevent and cure the ills of society, and thereby add still more to the wealth of the Nation and to the happiness of mankind, for whatever may be a man's profession, he is the best citizen who follows truth wherever it may lead, and in the light of truth recognizes the diseases of civil government and insists that scientific methods shall be used for the prevention and cure of those diseases.

"Do not understand me as urging you to become politicians, but as members of a scientific profession to take your proper position as scientific men among the real benefactors of mankind. Your reward may not appear in your bank books, but it will be none the less sure, in the greater esteem of your fellow-men and the approbation of your conscience. By pursuing an entirely different course, Mayor Johnson would, I believe, now be counted among those who count their wealth in nine figures; but I do not believe he would exchange his reputation as the best mayor of the best governed city in America for the ability to count his wealth in ten figures.

"While we are practicing the best methods of dehorning cattle, let us learn and practice the best methods of dehorning the grafters that trouble society. As year after year we practice the dipping of cattle to eradicate the parasites that infest them, let us learn and practice the art of freeing society from the social parasites that feed upon it. Let us keep in mind the fact that he is not a good citizen who does not give back to society as much as he gets from society, who does not render to his fellow-men a full equivalent for every service that they render to him. That is one of the valuable lessons that we may learn from the mayor of this city, who considers himself merely the chief ser-

vant of this great municipality, which has 150,000 more population than the State in which I live.

"Coming from the State of Montana, the third in area of all the States, sparsely populated, and living in a city that has less than 15,000 people, very naturally I take an interest in the splendid city in which we meet—in its immense buildings, its broad streets teaming with life and business, its beautiful residences, and all the material things that together make what we call a great city. But, after all, the object of most interest to me, the chief exhibit of this Queen City of one of the greatest and most progressive States in the Union, is Mayor Johnson, who is devoting his wealth, his energies and his great business abilities to the betterment of government, of citizenship and of humanity. Gibe, jeer and jest do not turn him from his purpose, defeat does not dishearten him, success has not made him autocratic, scandal has not smirched him, money does not tempt him from his purpose, and those who conspire against their fellow-men do not ask him into their councils.

"I say these things to you, representatives of a scientific profession, because what Mayor Johnson is doing for good government in Cleveland will in the end inure to your benefit as citizens of a great country. You and your children, on the Atlantic or the Pacific coast, in the South, in the Mississippi Valley or in the Rocky Mountains, will in the future reap benefits from the seed that Mayor Johnson is sowing in Cleveland. We will be benefited by the service he is rendering to good and clean government, and we will fall short of our duty if we fail to render an equivalent service by standing for what is best in government, as we stand for what is best in our chosen profession."

As has been the custom for a number of years, the calling of the roll was dispensed with, and the attendance determined by registration cards furnished at the entrance, where badges were supplied to all members and visitors. The attendance was the largest in the history of the Association, and the list as supplied by the Secretary is as follows:

THE ATTENDANCE.

Members.

W. J. Armour, Goshen, Ind.
F. E. Anderson, Findlay, O.
John W. Adams, Philadelphia, Pa.
F. Abele, Quincy, Mass.
Francis S. Allen, Philadelphia, Pa.

E. P. Althouse, Philadelphia, Pa.
S. Burrows, Cleveland, O.
M. C. Baker, Montreal, Can.
Tait Butler, Raleigh, N. C.
S. Brenton, Detroit, Mich.
W. W. Boucher, Ottawa, Can.
J. H. Blattenburg, Lima, O.
J. C. Burneson, Chicago, Ill.
Roscoe R. Bell, Brooklyn, N. Y.
Geo. H. Berns, Brooklyn, N. Y.
A. H. Baker, Chicago, Ill.
E. C. Beckett, Boston, Mass.
T. Earle Budd, Orange, N. J.
J. Black, Richmond, Mich.
W. L. Beebe, St. Paul, Minn.
Thos. Bland, Waterbury, Conn.
E. Burget, Wadsworth, O.
W. L. Baker, Buffalo, N. Y.
G. B. Blackman, Chatanooga, Tenn.
H. W. Brown, Columbus, O.
W. S. Cass, St. Louis, Mo.
T. Bent Cotton, Mt. Vernon, O.
A. E. Cunningham, Cleveland, O.
J. H. Crawford, Harvard, Ill.
Chas. E. Cotton, Minneapolis, Minn.
A. S. Cooley, Cleveland, O.
G. W. Cliffe, Upper Sandusky, O.
G. W. Dunphy, Detroit, Mich.
Wm. Dougherty, Baltimore, Md.
W. H. Dodge, Leominster, Mass.
W. H. Dalrymple, Baton Rouge, La.
H. Fulstow, Norwalk, O.
Paul Fischer, Columbus, O.
J. W. Groves, Hamilton, Ont.
S. H. Gilliland, Philadelphia, Pa.
G. D. Gibson, Adrian, Mich.
J. M. Good, Cincinnati, O.
J. T. Glennon, Newark, N. J.
D. Gorsuch, Glencoe, Md.
J. O. Greeson, Kokomo, Ind.
W. C. Holden, Delphos, O.
T. B. Hillock, Columbus, O.
R. H. Harrison, St. Paul, Minn.

C. H. Higgins, Ottawa, Can.
C. H. Howard, Coldwater, Mich.
W. H. Hoskins, Philadelphia, Pa.
H. Hoopes, Forest Hill, Md.
J. G. Hill, Jacksonville, Fla.
W. G. Hollingsworth, Utica, N. Y.
G. A. Jarman, Chestertown, Md.
G. B. Jones, Sidell, Ill.
J. J. Joy, Detroit, Mich.
J. W. Klotz, Noblesville, Ind.
A. T. Kinsley, Kansas City, Mo.
G. C. Kesler, Holley, N. Y.
R. W. Kenning, Pembroke, Ont.
M. E. Knowles, Helena, Mont.
A. J. Kline, Wauseon, O.
James Law, Ithaca, N. Y.
G. Ed. Leech, Winona, Minn.
R. P. Lyman, Hartford, Conn.
E. L. Loblein, New Brunswick, N. J.
G. W. Loveland, Torrington, Conn.
W. H. Lowe, Paterson, N. J.
J. P. Lowe, Passaic, N. J.
R. Muir, Grand Rapids, Mich.
J. C. McNeil, Pittsburg, Pa.
D. McAlpine, Brockville, Ont.
W. C. McGuire, Cornwall, Ont.
M. H. McKillip, Chicago, Ill.
R. N. Mead, St. Paul, Minn.
A. E. Moore, Ottawa, Can.
R. J. Morrison, Detroit, Mich.
R. C. Moore, Kansas City, Mo.
C. J. Marshall, Philadelphia, Pa.
L. A. Merillat, Chicago, Ill.
H. J. Milks, Candor, N. Y.
J. H. McNeall, Ames, Ia.
S. D. Myers, Wilmington, O.
J. T. Nattress, Delavan, Ill.
O. G. Noack, Reading, Pa.
J. V. Newton, Toledo, O.
J. P. O'Leary, Buffalo, N. Y.
H. A. Presler, Fairbury, Ill.
E. C. Porter, New Castle, Pa.
E. W. Powell, Bryn Mawr, Pa.

D. A. Piatt, Lexington, Ky.
J. M. Phillips, St. Louis, Mo.
A. T. Peters, Lincoln, Neb.
L. Pearson, Philadelphia, Pa.
C. H. Perry, Worcester, Mass.
E. L. Quitman, Chicago, Ill.
J. L. Robertson, New York.
J. Robertson, Chicago, Ill.
John J. Repp, Philadelphia, Pa.
J. G. Rutherford, Ottawa, Can.
M. H. Reynolds, St. Paul, Minn.
F. A. Rich, Burlington, Vt.
J. E. Ryder, New York.
J. F. Roub, Monroe, Wis.
G. H. Roberts, Indianapolis, Ind.
H. E. States, Detroit, Mich.
J. W. Scheibler, Memphis, Tenn.
F. H. Schneider, Philadelphia, Pa.
E. H. Shepard, Cleveland, O.
E. P. Schaffter, Cleveland, O.
N. I. Stringer, Watseka, Ill.
T. E. Smith, Jersey City, N. J.
W. Shaw, Dayton, O.
S. Stewart, Kansas City, Mo.
L. E. Tuttle, Bernardsville, N. J.
W. J. Tomlinson, Williamsport, Pa.
T. Thacker, Renfrew, Ont.
Z. Veldhuis, Fremont, Mich.
G. B. Vleit, Hackettstown, N. J.
W. L. Williams, Ithaca, N. Y.
O. G. Whitestone, Huntingdon, Ind.
S. H. Ward, St. Paul, Minn.
G. R. White, Nashville, Tenn.
Robert Weir, Rutland, Vt.
J. F. Winchester, Lawrence, Mass.
Geo. Waddle, Kalamazoo, Mich.
D. S. White, Columbus, O.
W. E. Wight, Pittsburgh, Pa.—(130.)

Visiting Veterinarians.

Canada.—S. J. Jupp, Petrola, Ont.

District of Columbia.—J. D. Robinson, Washington.

Illinois.—F. H. Davis, Chicago; Chas. Frazier, Chicago;

G. P. Frost, Chicago ; O. M. Goodale, Kewanee ; O. F. Butterfield, Libertyville ; W. J. Martin, Kankakee.

Indiana.—D. McMahon, Noblesville ; W. C. Clevenger, Winchester ; R. G. George, Union City ; D. C. Smith, Frankfort ; J. S. Donald, Bay City.

Michigan.—W. A. Haynes, Jackson ; E. E. Patterson, Detroit ; H. S. Smith, Albion ; C. A. Waldron, Tecumseh ; J. C. Whitney, Hillsdale ; F. O. Nottory, Detroit.

New Jersey.—W. Runge, Newark.

New York.—L. L. Bishop, Delavan ; Le Roy Webber, Rochester ; H. D. Gill, Theo. F. Krey, New York ; R. Perkins, Warsaw.

Ohio.—W. A. Axby, Harrison ; F. L. Avery, Cleveland ; S. E. Bretz, Nevada ; O. V. Brumley, Columbus ; W. A. Bisbee, Cleveland ; J. F. Bluisby, Bellevue ; E. H. Callender, Zanesville ; J. B. Caughey, Columbiana ; W. E. Clemons, Granville ; Claude H. Case, Akron ; W. F. Derr, Wooster ; M. F. Danee, Marion ; L. J. Dunn, Cleveland ; P. A. Dillahunt, Springfield ; R. E. Davis, Toledo ; W. H. Derr, Mansfield ; N. H. Downs, Cleveland ; D. J. Dellenberger, Akron ; A. L. Deal, Wilmot ; C. W. Eddy, Cleveland ; J. D. Fair, Berlin ; J. E. Foster, Coshocton ; A. D. Fitzgerald, Columbus ; F. C. Fadner, Berea ; C. B. Frederick, Canton ; M. P. Freed, Conneaut ; W. F. Foust, Bryan ; L. W. Goss, Ravenna ; A. D. Greenville, Celina ; W. H. Gribble, Washington C. H. ; S. W. Gibson, Cleveland ; R. F. Holland, Wellington ; F. A. Harsh, Minerva ; R. C. Hill, W. Alexandria ; W. R. Howe, Dayton ; E. O. Hess, Elyria ; A. L. Hoisington, Fremont ; G. A. Harvey, Cleveland ; C. B. Horr, Shelby ; H. N. Jeffries, Greenville ; W. E. Kreider, Wadsworth ; H. M. Manley, Dayton ; W. C. McClain, Zanesville ; E. L. Metzgar, Louisville ; F. Miller, Ft. Recovery ; H. W. McMillen, Brookville ; H. Miller, Cleveland ; G. C. Mower, Oak Harbor ; S. B. McDougal, Youngstown ; R. P. Moosteller, Republic ; W. H. Turner, N. Amherst ; H. W. Riley, Akron ; F. Rigdon, Kenton ; W. H. Redhead, Cleveland ; W. A. Schaffter, Wooster ; E. D. Smith, Cleveland ; L. A. Severygood, Elyria ; W. M. Sprengle, Glenville ; F. F. Sheets, Van Wert ; W. B. Scott, Middletown ; Z. W. Seibert, Crestline ; W. T. Sparhawk, Lakewood ; O. G. Spidell, Sugarcreek ; W. J. Torrance, Cleveland ; M. W. Tritschler, Cincinnati ; H. L. Williams, Newark ; R. W. Whitehead, Youngstown ; G. C. Webb, Akron ; I. A. Wyman, Kenton ; W. B. Washburn, Tiffin ; J. Wingerter, Akron ; C. J. Williamson, Bucyrus.

Pennsylvania.—E. E. Bittles, New Castle; W. D. Fuller, Somerset; B. M. Freed, Sharon; W. O. McHugh, Pittsburgh; Geo. Magee, Uniontown; J. F. Olweiler, Elizabethtown; H. F. Pegan, Cochranston; J. M. Sloan, Jamestown; L. D. Sloan, Conneautville; W. M. Wilson, Hartstown; A. W. Weir, Greenville.

West Virginia.—G. W. Kinsey, Wheeling.

Wisconsin.—T. H. Ferguson, Lake Geneva—(III).

Ladies.

Canada.—Mesdames J. W. Groves, Hamilton, Ont.; A. E. Moore, Ottawa, Ont.; Miss Lilian McFarland.

District of Columbia.—Mrs. J. D. Robinson.

Illinois.—Mesdames J. C. Burneson, Chicago; A. H. Baker, Chicago; L. A. Merillat, Chicago; N. I. Stringer, Watseka.

Maryland.—Mrs. Dickinson Gorsuch, Glencoe.

Massachusetts.—Mesdames Chas. H. Perry, Worcester; J. F. Winchester, Lawrence.

Michigan.—Mrs. S. Brenton, Detroit; J. S. Donald, Bay City; G. D. Gibson, Adrian; C. H. Howard, Coldwater; H. E. States, Detroit; J. C. Whitney, Hillsdale; Misses Andrews, Detroit; Candor, Detroit; Margaret Veldhuis, Overisel; Lena Veldhuis, Overisel; R. L. Brenton, Detroit.

Minnesota.—Mrs. G. Ed. Leech, Winona; Miss Margaret Cotton, Minneapolis.

Missouri.—Mrs. J. M. Phillips, St. Louis.

New Jersey.—Mrs. Wm. H. Lowe, Paterson.

New York.—Mesdames Geo. H. Berns, Brooklyn; W. L. Baker, Buffalo; Misses Nellie C. Berns, Brooklyn; E. Speed, Ithaca; Ethel Williams, Ithaca; May Williams, New York.

Ohio.—Mesdames F. E. Anderson, Findlay; F. M. Burrows, Cleveland; A. S. Cooley, Cleveland; Paul Fischer, Columbus; L. A. Harsh, Minerva; W. C. Holden, Delphos; S. D. Myers, Wilmington; J. V. Newton, Toledo; L. R. Webber, Cleveland; O. E. Cotton, Mt. Vernon; D. Turner, N. Amherst; G. W. Cliffe, Upper Sandusky; W. H. Redhead, Cleveland; E. H. Callender, Zanesville; H. W. Brown, Columbus; W. B. Washburn, Tiffin; J. D. Fair, Berlin; R. C. Hill, W. Alexandria; H. W. McMillen, Brookville; L. J. Dunn, Cleveland; A. E. Cunningham, Cleveland; W. C. Fair, Cleveland; W. H. Gribble, Washington C. H.; N. H. Downs, Cleveland; Frank Rigdon, Kenton; J. E. Foster, Coshocton; I. A. Wyman, Kenton; Miss M. E. Fair, Cleveland.

Pennsylvania.—Mesdames F. S. Allen, Philadelphia; John W. Adams, Philadelphia; W. H. Hoskins, Philadelphia; C. J. Marshall, Philadelphia; E. C. Porter, New Castle; E. W. Powell, Bryn Mawr; F. H. Schneider, Philadelphia; A. W. Weir, Greenville; W. M. Wilson, Hartstown—(70).

Other Visitors.

Canada.—Gordon Boucher, Ottawa; W. S. Groves, Hamilton, Ont.

Illinois.—I. R. Andrews, Chicago; J. P. Dunn, Chicago; H. D. Dall, Chicago; D. E. Osgoodby, Chicago; Alex Eger, Chicago; Captain A. C. Merillat, Chicago.

Indiana.—Geo. Barcus, Wabash.

Michigan.—R. J. Morrison, Sr., Detroit; L. C. Layson, Detroit; C. N. Anderson, Detroit.

New York.—Bellmont Bell, Brooklyn; Hollingsworth Bell, Brooklyn.

Ohio.—E. Carter, Toledo; W. C. Drake, Cleveland; Hon. Tom L. Johnson, Mayor, Cleveland; O. W. Johnson, Cleveland; W. A. Axby, Harrison; G. Foster, Coshocton; W. E. Burneson, Berea; A. L. Palmer, Cleveland.—(22.)

NEW MEMBERS ELECTED.

At the various seatings of the Executive Committee the following applicants were recommended for membership in the Association, and they were unanimously elected:

Wm. Reid Blair, D. V. S. (McGill U., '02), New York City. Vouchers, Roscoe R. Bell and Wm. Herbert Lowe.

Samuel H. Burnett, D. V. M. (N. Y. S. V. C., '02), Ithaca, N. Y. Vouchers, V. A. Moore and P. A. Fish.

W. B. Fleming, V. M. D. (U. P., '05), Montgomery, Ala. Vouchers, John J. Repp and C. J. Marshall.

George A. Hanvey, Jr., D. V. S. (K. C. V. C., '05), Clemson College, S. C. Vouchers, Louis A. Klein and Benjamin McInnes.

Abram H. Metzger, V. M. D. (U. P., '03), Millersville, Pa. Vouchers, John J. Repp and C. J. Marshall.

Charles S. Moore, V. S. (N. Y. C. V. S., '91), Danvers, Mass. Vouchers, Benj. D. Pierce and Harry Lukes.

Sidney D. Myers, V. S. (O. V. C., '94), Wilmington, Ohio. Vouchers, Walter Shaw and T. B. Hillock.

Z. Veldhuis, D. V. S. (Vet. Dept., Detroit College of Medicine, '96, K. C. V. C., '04), Fremont, Mich. Vouchers, S. Brenton and George W. Dunphy.

Enoch Barnett, V. M. D. (U. P., '05), Philadelphia, Pa. Vouchers, John J. Repp and Clarence J. Marshall.

Eugene W. Bradley, V. M. D. (U. P., '05.), Philadelphia, Pa. Vouchers, John J. Repp and Clarence J. Marshall.

H. W. Brown, D. V. M. (O. S. U., '02), Columbus, Ohio. Vouchers, T. B. Hillock and John V. Newton.

G. W. Cliffe, D. V. S. (Ohio V. C., '92) Upper Sandusky, Ohio. Vouchers, T. B. Hillock and John V. Newton.

Charles L. Colton, V. M. D. (U. P., '01), Hartford, Ct. Vouchers, Richard P. Lyman and Thos. Bland.

W. R. Edwards, M. D. C. (C. V. C., '05), Vicksburg, Miss. Vouchers, W. H. Dalrymple and M. M. White.

Charles F. Flocken, D. V. M. (N. Y. S. V. C., '01), Havana, Cuba. Vouchers, Nelson S. Mayo and John S. Buckley.

G. D. Gibson, V. S. (O. V. C., '93), Adrian, Mich. Vouchers, George W. Dunphy and S. Brenton.

R. R. Hammond, V. S. (O. V. C., '85), Cherokee, Iowa. Vouchers, H. C. Simpson and J. I. Gibson.

James J. Joy, V. S. (O. V. C., '89), Detroit, Mich. Vouchers, S. Brenton and Geo. W. Dunphy.

Aquila Mitchell, D. V. S. (A. V. C., '95), Skaneateles, N. Y. Vouchers, W. J. Coates and J. L. Robertson.

Robertson Muir, M. R. C. V. S. (Glasgow, Scotland, 1875), Grand Rapids, Mich. Vouchers, Geo. W. Dunphy and S. Brenton.

George B. Vliet, V. S. (O. V. C., '91), Hackettstown, N. J. Vouchers, William Herbert Lowe and T. E. Smith.

W. B. Washburn, V. S. (O. V. C., '93), Tiffin, Ohio. Vouchers, E. H. Shepard and John V. Newton.

W. E. Kreider, V. S. (O. V. C., '94), Wordsworth, Ohio. Vouchers, E. Burget and John V. Newton.

C. W. Springer, V. M. D. (U. P., '05), Mount Carmel, Pa. Vouchers, John J. Repp and C. J. Marshall.

Reinstatements.

The following were reinstated to full membership on recommendation of the Executive Committee :

G. Allen Jarman, Chestertown, Md.

D. W. Curtis, Cadillac, Mich.

David S. White, Columbus, Ohio.

William R. Howe, Dayton, Ohio.

J. D. Fair, Berlin, Ohio.

George B. Blackman, Chattanooga, Tenn.

W. E. Wight, Pittsburgh, Pa.

The reading of the minutes of the 1904 meeting was also not done, but the printed minutes of the proceedings were submitted by the Secretary and were approved by the Association.

REPORTS OF REGULAR COMMITTEES.

It is not the purpose of the reporter to go deeply into the exhaustive and extremely valuable reports furnished by these committees, as they will be published in full in "Proceedings," but simply to enumerate the points treated of.

Intelligence and Education.

The Committee on Intelligence and Education reported in sections, the Chairman having assigned to each member a subject for his investigation.

Chairman Clarence J. Marshall, of Pennsylvania, read the general report in which he reviewed the condition of the profession throughout the country. He showed that there was an increase everywhere in the investigation of animal diseases, and an improved nomenclature, particularly parasitic diseases, their causes, treatment, etc., and the literature was so rapidly developing that it is hard for one to keep abreast of the times. In reference to the schools the Chairman said it was very difficult to obtain reliable reports, and the only means he has had of forming a judgment was through the quality of their graduates as developed through the examining boards. These sources of information indicate that recent graduates show a decided improvement over those of a few years ago; probably the most conspicuous deficiency in the modern graduate is his lack of knowledge of horsemanship and upon practical subjects, which they have to acquire after graduation, either in the capacity of assistant to an established practitioner or at the expense of their clients. The Chairman recommended that future committees keep in touch with the examining boards as affording the best means of knowing the quality of the work being done by the colleges; the questions propounded by the boards and the answers obtained would show the weak points in the schools.

Dr. M. H. Reynolds, member of the committee, rendered a report of recent literature, and it was a most exhaustive and valuable one. He did not give a dry enumeration of the product of veterinary and comparative minds in the past year, but he gave a charming review of the salient points in many of the more important works, showing that he had been an extensive

reader in all fields that have a bearing upon comparative medicine. His report, to be published in "Proceedings," should be carefully read by every man who wishes to keep in touch with all that is transpiring in the busy world, and from his estimate of the importance of the various works one can know just what is best to read. Few men have the ability to read to the extent that Dr. Reynolds does, and his conclusions should be of the greatest value to those who have time for only limited reading. Dr. Reynolds thought that it might be better for future committees to take up one or two subjects each year (infectious diseases, surgery, tuberculosis, etc.), and thoroughly review everything in their literature of value, rather than to give a miscellaneous report such as his necessarily was.

Dr. George R. White, of Tennessee, reported upon the colleges, and certainly no committeeman ever went at an investigation more thoroughly than he. He sent out to every college head a list of pertinent questions which if conscientiously answered ought to have placed the Association in possession of intimate knowledge of the exact work being done by the various schools. The responses from the deans was very full, and if their answers are to be depended upon every school is doing good work, and omitting but little which could add to the sum of knowledge. For that matter, the announcements lack nothing in this direction; but it is well known that high-sounding platitudes are by some substituted for work in the class-room, and these well-printed statements are but a glazing to cover over imperfect and insufficient teaching. Dr. White's report while dealing in cold questions and responses, had many humorous features, and his conclusions from the great amount of work which he accomplished are worth much to those engaged in standardizing education in the different schools. The reorganization of the Association of Faculties and Examining Boards in coöperation with the A. V. M. A. is treated of elsewhere in this number, and has a great bearing on this perplexing problem.

Committee on Diseases.

Dr. Charles H. Higgins, of Canada, Chairman of this committee, made a report dealing with the subject in general, but on account of the absence of other members of the committee, gave the absentees the post of honor and read their papers instead of his own. The paper by Dr. John R. Mohler, intended as a section of the committee's work, was really a very scientific investigation of a group of diseases caused by the *Bacillus necrophorus*, which properly was a thesis and not a report

on diseases. It will make extremely interesting reading matter in the "Proceedings." Dr. Higgins argued that the Committee on Diseases has really no province, since the reports of the State Secretaries cover the existence of diseases in the various sections of the country, and the consideration of special diseases not only usurps the work of the secretaries, but encroaches upon the ground of the essayist. At his suggestion, the Association voted to discharge the committee. Too much praise cannot be extended to this committee for its work during the past two years, during which time Dr. Higgins has occupied the chairmanship. He has done a great deal of hard work and has thoroughly demonstrated that there is really no place for this committee.

The Publication Committee.

Chairman Lyman rendered a full report of his stewardship, showing the gradually increasing cost of publication of the annual "Proceedings" and his efforts to stem the tide. The additional cost is occasioned by the increasing size of the book, the greater number of copies required, and the augmented cost of work and material. He made some pertinent suggestions looking to a lessening of typewriters during the meeting by insisting upon copy being furnished properly edited by the authors, thus doing away with the necessity of furnishing manuscript for correction during the meeting. It is proposed to make a greater distribution of "Proceedings" among scientific and medical bodies, thus giving a broader dissemination of the valuable material presented to the annual meetings of the Association.

Necrology.

The committee reported four deaths among the membership during the year, and offered suitable expressions of regret at the loss sustained by the Association. The names of the deceased members are Drs. W. B. E. Miller, of New Jersey; George H. Bailey, of Maine; James McKee, of Staten Island, N. Y.; and Charles Gresswell, of California.

COMMITTEE ON RESOLUTIONS.

This committee offered the following important expressions of judgment on the part of the Association, which were adopted:

The Army Veterinarian.

"WHEREAS, Our country continues to be the only one of

the leading nations of the world that maintains as civilians those who are engaged as veterinarians in our army service, and,

"WHEREAS, The continued faithful loyal service rendered our Government for more than two score of years without any promise of future reward to those of our number who have entered our army service, and who in the face of these undesirable conditions have enhanced in every way the character of the services rendered, and

"WHEREAS, The greater need of higher veterinary service in the broadening field of sanitary control and skilled professional inspection work demand more and more a higher scientific standard of the educational attainments of those added from time to time to this branch of our national service; therefore, be it

"Resolved, That in convention assembled, with over three hundred representatives of the profession present from all parts of our country, an appeal be made to our President, our national lawmakers, and our Army Department, to approve the measure presented by our army veterinarians, to the end that a just reward may be accorded them, and that our country be placed on as high a plane as our sister nations in the matter of army veterinary service."

The Southern Cattle Tick.

"WHEREAS, The Southern cattle tick (*Boophilus annulatus*) and the resulting Federal quarantine restriction on the movement of Southern cattle is the greatest obstacle to the growth of the cattle industry of the Southern States, and

"WHEREAS, The work of tick extermination in some of the Southern States demonstrates that it is perfectly feasible to eradicate the cattle tick, and

"WHEREAS, The Federal Bureau of Animal Industry has successfully conducted measures to eradicate other diseases when affecting or jeopardizing the cattle interests of other sections of the country; therefore, be it

"Resolved, That it is the sense of the Association that the time has arrived for active and substantial Federal assistance to the Southern States in their efforts to exterminate the greatest present menace to the cattle interests of a large part of our country.

JAMES LAW
"J. L. ROBERTSON } Committee."
"WILLIAM DOUGHERTY }

ARMY LEGISLATION.

Chairman Lowe reported for this committee, submitting the bill now before the Secretary of War, from the veterinarians of the Army. The committee felt that, as nothing could be done by the army veterinarians themselves, the Association should send delegates directly to President Roosevelt to plead for the very modest demands of the members of the service. There will be found in the report of the Committee on Resolutions a very manly memorial to the President of the United States and President Lowe purposes appointing on the committee for next year men who can and will proceed to the National Capital and deliver the memorial to the President on behalf of the Association. It is believed that our Chief Executive must see when his attention is thus drawn to the real status of the veterinary service in our Army that it is out of all proportion that the great American nation should be the most niggardly in this regard of any civilized country in the world.

THE TREASURER'S REPORT.

Treasurer Lowe submitted his carefully prepared statement of the operation of his office for the year, giving in detail every dollar received and accounting for every one expended. The report showed that the receipts were \$2349.51; the expenditures \$2014.62, leaving a balance on hand of \$334.89.

REPORTS OF RESIDENT STATE SECRETARIES.

Resident Secretaries in the following States, Colonies, and Provinces were received, and either read by the Secretary in person, or placed on file with the Association for printing in the "Proceedings:" Arizona and New Mexico, J. C. Norton, Phoenix, Arizona; Connecticut, F. F. Bushnell, Winsted; Florida, J. G. Hill, Jacksonville; Kentucky, D. A. Piatt, Lexington; Maine, A. Joly, Waterville; Maryland, F. H. Mackie, Baltimore; Michigan, S. Brenton, Detroit; Minnesota, D. M. McDonald, Brainerd; Nebraska, W. A. Thomas, Lincoln; New Jersey, James T. Glennon, Newark; New York, J. E. Ryder, New York City; Ohio, Paul Fischer, Columbus; Pennsylvania, C. J. Marshall, Philadelphia; Tennessee, George R. White, Nashville; Vermont and New Hampshire, F. A. Rich, Burlington, Vermont; Ontario, Canada, Thomas Thacker, Renfrew; Philippine Islands, G. E. Nesom, Manila; Cuba and Porto Rico, N. S. Mayo, Santiago de las Vegas, Cuba.

The report of Secretary Fischer, of Ohio, was extremely interesting and brought out a full and valuable discussion. In the

course of the report the statement developed that there were \$120,000,000 worth of live stock in the Buckeye State, and to care for this great wealth there are 200 regular veterinarians. Glanders is a rather rare disease in that State, only 25 horses affected with it being destroyed during the last year. These were confined to eight counties out of a total of 88 counties in the State.

Secretary Rich, of Vermont, also gave a most interesting account of veterinary matters in his State, principally narrating the method adopted in dealing with tuberculosis. In the last ten years 140,000 head of cattle have been submitted to the tuberculin test, which is applied upon request of owners. When destroyed the State pays 80 per cent. of the appraised valuation, determined by government appraisers. It has been found that about 3 to 5 per cent. of all cattle are affected with the disease.

Secretary Marshall, of Pennsylvania, contrary to his usual custom, did not read his report, which is usually a very interesting document. He explained that this year it was very long and better suited for publication, as it consisted largely of copies of the recent important laws secured by the profession in relation to veterinary interests. The united profession in the Keystone State was very fortunate during the last session of the legislature, obtaining appropriations and regulating statutes whenever sought.

The Librarian, Dr. W. L. Williams, gave a detailed account of his stewardship, showing just what has been received and disposed of in the Association's literary archives.

ELECTION OF OFFICERS.

In the afternoon of the first day the annual election of officers occurs, and this year there was but little contest, it seeming to be the general opinion that the first names presented were wholly acceptable and no other nominations were made. The only instance where resort to the ballot had to be had was in the case of the selection of five Vice-Presidents, there being eight placed before the convention.

Dr. Roscoe R. Bell, of New York, placed the name of Dr. Wm. Herbert Lowe, of New Jersey, before the meeting for the office of President, the speaker drawing attention to his long and unselfish labors in behalf of his profession and the Association, while Dr. T. Earle Budd, President of the Veterinary Medical Association of New Jersey, paid a glowing tribute to his colleague, recounting the almost superhuman work which Dr.

Lowe did in his native State, uniting a disorganized and demoralized profession into a powerful and harmonious body; and then worked by day and by night until he secured the passage of excellent laws, governing and protecting practice in that State, and afterwards championing these laws by securing the conviction of prominent offenders. The speakers thought the nominee had every qualification for the office, and he would bring to the Chair the ripe experience gained in his past career and his great energy and enthusiasm which are a part of his nature, all insuring a successful administration of the affairs of the National Association. The members took the same view of the nominee's merits, for no other name was placed before the meeting, and his unanimous election followed.

For Vice-Presidents the following were placed in nomination: Drs. J. G. Rutherford, of Canada; A. H. Baker, Illinois; W. H. Dalrymple, Louisiana; Charles E. Cotton, Minnesota; S. H. Ward, Minnesota; Richard P. Lyman, Connecticut; George W. Dunphy, Michigan; E. H. Shepard, Ohio. Drs. Rutherford, Dalrymple, Shepard, Cotton, and Lyman were elected, taking precedence in the order given, according to the number of votes cast for each.

Secretary Repp succeeded himself for the fourth term, the members striking a balance in his favor through the satisfactory manner in which he has performed the duties of his office since his election at Minneapolis.

For Treasurer all eyes seemed to turn to the energetic member from Tennessee, and Dr. George R. White was unanimously elected to guard the finances of the Association for the coming year, replacing Dr. Lowe, who was elevated to the Presidential chair.

So that the following gentlemen will fill the offices in the Association for the ensuing year:

President—Wm. Herbert Lowe, of New Jersey.

Vice-Presidents—J. G. Rutherford, of Canada.

—W. H. Dalrymple, of Louisiana.

—E. H. Shepard, of Ohio.

—Charles E. Cotton, of Minnesota.

—Richard P. Lyman, of Connecticut.

Secretary—John J. Repp, of Pennsylvania.

Treasurer—George R. White, of Tennessee.

A NOMINATING COMMITTEE.

Dr. C. J. Marshall proposed an amendment to the By-Laws

creating a committee on nominations to consist of all the ex-presidents in attendance upon the annual meetings, such committee to place before the meeting not less than three names for the office of president, not less than ten from which to select the five vice-presidents, and not less than two each for secretary and treasurer. The names submitted are to be placed in alphabetical order so that one will not have a significance over another. Nominations may also be made from the floor. By this method it is hoped that there will be a better opportunity to select the best timber in the Association to fill the offices, thus doing away with any wire-pulling and electioneering. It is argued by the promoters of the change that ex-presidents have no personal ambitions to gratify, and will present only such names as they deem most suited to serve the Association best.

This same motion failed at the St. Louis meeting under a misapprehension of its purport. The REVIEW in its account of the meeting pointed out that the members had misinterpreted the spirit of the suggestion, which was at that time championed by Dr. Reynolds, and their present reversal of judgment substantiates the REVIEW's conclusions.

PAPERS AND DISCUSSIONS.

"Unusual Lesions of Tuberculosis Found in Abbatoir Inspection," was the title of a very interesting paper by Dr. R. H. Harrison, of the Bureau of Animal Industry, St. Paul, Minn., and was discussed at length by Dr. S. Stewart and others.

"The Immunization of Cattle Against Tuberculosis," by Drs. Pearson and Gilliland, was read to the members and was received with the closest attention and concluded in a storm of applause. The discussion was more in the nature of a search for more light upon the subject, the essayist being plied with queries from Drs. Quitman, Noack, Reynolds, Kinsley and others, while Dr. Law made some extended remarks, expressing his fears as to the ultimate success of the immunizing efforts now being made, but warmly endorsing the conscientious work being done by the essayist. The paper is printed in full elsewhere in this number.

Dr. Louis A. Klein, of Clemson College, S. C., was unable to present his announced paper on "Epizoötic Abortion," as the experiments upon which it was based were not finished, but instead he contributed one on "A New Treatment for Gastro-Intestinal Catarrh or Scours in Milk-Fed Calves," which was referred to the Publication Committee.

Dr. M. H. Reynolds' paper on "Stable Ventilation" was

really the detailing of a number of experiments showing the effects of carbonic acid gas upon the constitutions and milk secretion of cattle, and did not include, as might have been thought from the title, new ideas in the ventilation of stables in general, and particularly with reference to the stuffy abodes of hard-worked horses in the large cities. It was discussed by Drs. Quitman, Tuttle and Higgins.

"Spavin Group of Lameness" was the joint product of Drs. W. L. Williams, C. W. Fisher and D. H. Udall, but it was not hard to recognize the ear-marks of the surgical sage of Ithaca, who has taken the subject greatly to heart, and believes that all or nearly all spavins, or splints, or ringbones belong to one family and have underlying them the ossific diathesis, or a something, which needs but an excitant to bring forth the ocular evidence of its existence. We hope soon to obtain this paper for publication, for there must be something in it when Dr. Williams is behind it. The paper was discussed by Drs. J. W. Adams, L. A. Merillat, and W. H. Hoskins.

"Neurectomies of the Pelvic Limb" was a practical review of the anatomy of the hind-leg with special reference to the nerves which are usually operated upon for lameness, and received very careful consideration at the hands of that excellent surgeon, Dr. R. C. Moore, of Kansas City. He further went into a rational discussion of the causes of degeneration in the tendons and soft tissues with the indications and contraindications for the interference. Drs. Harrison, Quitman, and Adams entered into the discussion.

"Accidents and Sequellæ of Surgical Operations," by Dr. L. A. Merillat, of Chicago, followed Dr. Moore's paper, these two forming the programme for the extra session on Wednesday night. Dr. Merillat went at his subject with a rush and read rapidly for almost an hour, so exhaustive were the surgical procedures which had to be included under his title. Not a sound could be heard save the author's voice, so intent were his auditors to catch every word, and when he had concluded there ensued a discussion which has probably never been equalled in this country. It was a night session, when visitors from abroad usually go sight-seeing, but to-night more than two hundred are glued to the chairs, and not a man leaves the room until it is all over. When the points brought out by the author have been submitted to the criticisms of the debaters, they take up methods of anæsthetizing and consider the subject from every viewpoint—the rapid and the slow method, the modes of death

and their frequency, the complications and sequellæ, and then some astounding statistics. Surgeons of national reputation were in debate upon surgical questions, and the time passed rapidly. Those taking part (many speaking three or four times) were Drs. Williams, Adams, Howe, Moore, Merrillat, James Robertson, Newton, Quitman, Beckitt, and Rutherford.

Dr. E. L. Quitman was slated for "General Remarks on Veterinary Therapeutics," but explained that he was so impressed with some changes in the new United States Pharmacopœia that he had thought he could serve the Association best by substituting a paper on "A Review and Criticism of the New Pharmacopœia," and it proved to be of the utmost value, so much so that we begged for a copy of the paper and it is crowded into this number of the REVIEW, many articles already in type being held for subsequent issues, that Dr. Quitman's article might be given to the profession at the earliest moment.

"Calculi" was substituted for "Hydrothorax" by Dr. George B. Jones, of Sidell, Ill., and he narrated some peculiar instances of these formations and exhibited some fine specimens.

Through the interest of Dr. Liautard, a valuable paper by Dr. E. Lavalard, of Paris, was read, by Dr. Bell, the title being "Glanders During Half a Century, from 1845 to 1905, in a Firm Employing a Large Number of Horses," being the experiences of Dr. Lavalard in controlling the disease among the horses owned by the Omnibus Company of Paris, more than a hundred thousand. One of the most general and valuable discussions of the meeting was provoked by the reading of this paper, those taking part being Drs. Ward, Reynolds, Abele, Lyman, Knowles, Butler, Cotton, Bell, Beckitt, Dunphy, Berns, and Rutherford; the last named gentleman going deeply into the methods now being carried out in the Dominion of Canada. The system of testing and re-testing which was practiced a few years ago, has been abandoned, and animals are now destroyed on the mallein test and paid for by the Government. In the past eight or nine months more than \$80,000 has been paid for animals thus destroyed, and he believes the disease will be eradicated from the Dominion in a few years, repaying tenfold for the cost of its extermination.

"Twenty-Seven Years' Veterinary Experience," was the title of a popular paper by Dr. J. V. Newton, of Toledo, Ohio, being a narrative of events in his professional life which pointed a moral. Some of his conclusions were in the nature of injunctions not to neglect a good practice to enter politics, never ac-

cept money from dealers, and always read the REVIEW. We expect to publish this paper in the October number.

The following papers were read by title, and will be published in "Proceedings": "A New Treatment for Scours in Calves", by Dr. Louis A. Klein, Clemson College, S. C.; "The Status of Therapeutics", by Dr. P. A. Fish, Ithaca, N. Y.; "Hydrothorax", by Dr. Geo. B. Jones, Sidell, Ill.; "Clinical Examination of the Blood of the Dog", by Drs. S. H. Burnett and Jacob Traum; "The Profession and the Advancement of Science", by Dr. D. Arthur Hughes, East St. Louis, Ill.; "Trypanosoma Equiperdum", by Dr. John R. Mohler, Washington, D. C.

The hour having drawn near for the final adjournment, as the afternoon was to be devoted to a sail upon Lake Erie, the installing of the newly-elected officers was begun, and each one, from the President to the Treasurer, made brief speeches of acceptance, pledging their best efforts in behalf of the Association. President Lowe read a carefully prepared paper, outlining his policy and giving expression to his sense of great responsibility in the high office, and stating that all his best energies should be put to the test to make his administration count for the benefit of the Association.

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THE SURGICAL AND MEDICAL CLINIC.

The clinic was held at Troop A Riding Academy, corner of Curtiss and Willson Avenues, about twenty minutes' ride from headquarters. The large ring of the Academy, covered with tanbark, was well adapted for the purposes of the clinic, and had been supplied by the local committee with every requisite. In the centre a series of circular seats, in amphitheatre style, were placed, capable of seating two hundred persons, in the centre of which was placed an operating table, brought from quite a distance, of the pattern used at the Chicago Veterinary College. In close proximity were tables on which were various dressing materials and drugs to be employed in the operations. The committee had thoughtfully provided distilled ice-water for the thirsty veterinarians, which was very gratefully partaken of at frequent intervals. Over against the wall was arranged a pair of Barcus stocks for confining horses for operations. Stable accommodations for the patients were provided in the stable department, and all in all the arrangements might be said to be ideal. The local committee of surgeons were attired in white uniforms ready to place the operator in possession of any assistance he might require.

Under such favorable conditions, with the most noted surgeons in this country on the programme and on the ground, the audience had a right to expect the best demonstrations ever witnessed in the history of "the surgical clinic." And it came very near to being a perfect one; in fact, so near that, we heard a prominent opponent of this section of the annual meeting's programme acknowledge that he was mistaken; that properly conducted he believed they were a valuable addition, educational and interesting. If one of the committee had been assigned to the work of "managing" the events, choking off undue verbosity on the part of some of the surgeons, who wandered away from the case in hand and gave lectures on elementary surgery, entirely foreign to the case under consideration, consuming valuable time which belonged to others, a great mistake would have been avoided. The "manager" should assign just so much time to each one to explain the technique of his operation and for no other purpose, and should bring out the next subject promptly. Lacking these arrangements, the programme dragged, many subjects remained in their stalls when the hour to close had arrived, and not nearly so much was learned as there would have been with a more business-like management. Still the Cleveland clinic stood head and shoulders above any clinic ever held under the auspices of the A. V. M. A., and the local clinic committee is entitled to much praise for all they did. This criticism is written in the kindest spirit, and for the benefit of the next committee, rather than as a censure for what the Cleveland committee failed to do. Attendance, about two hundred and twenty-five.

Case I.—Arytenectomy. Operator, Prof. M. H. McKillip, Chicago. Brown gelding, aged; thrown with side lines and placed on back with head extended. Operative field thoroughly disinfected, larynx opened with triangular incision, cartilages sawed through, and left vocal cord exposed motionless; cord resected, and wound left to granulate without suturing. Time occupied, six minutes. Operator explained his technique at length.

Case II.—Lameness. Surgeons, Drs. W. R. Howe and W. E. Wight. Chestnut driving gelding, 8 years old, lame off front for two years. Diagnosis, navicularthrititis; injected for low plantar neurectomy with Stovaine 15 per cent.; horse stood 40 minutes, and when trotted to halter lameless had not decreased. He was then injected with the same solution as for high plantar neurectomy, and in 20 minutes trotted sound. The diagnosis

was amended, and the cause of the lameness assigned to low ringbone. Advice, high plantar neurectomy.

Case III.—Lameness. Surgeons, Drs. George H. Berns and E. L. Quitman. Bay coach gelding, 10 years old, lame near front for 1½ years. Diagnosis by Dr. Berns, periostitis of os pedis, or keraphylocele, or both. Dr. Quitman did not disagree, but observed a painful osteophyte just back of the knee and would withhold his diagnosis until a local anæsthetic could be used. The attending coachman had no authority to permit this, and the question was left open.

Case IV.—Bone spavin. Operator, Dr. John W. Adams, of Philadelphia. Brown draught gelding, 9 years old, lame off hind. Has had enlargement for a year, but has only been lame two weeks. Spavin located well forward, and cunean tenotomy is not really indicated, though the surgeon explained that tenotomy would be performed and the hock well fired. Side line was used on opposite leg, 3 drachms of a 4 per cent. solution of cocaine were injected at several points on the superior part of the internal aspect of the hock and the surface well massaged. For the tenotomy he made a very small antero-posterior slit in the skin on the lower border of the tendon as found by the groove (or the feel of the thumb if there is not much enlargement). In some cases he also performs periostotomy, and dresses the wound with oakum for two or three days. This operation causes a swelling, which results in counter-irritation, lasting some time, and he prefers it to firing, as it leaves no mark. Absolute rest for six or eight weeks, then walking exercise. The electric cautery used by Dr. W. R. Howe, of Dayton, Ohio, was employed in firing this horse, and was well spoken of.

Case V.—Stringhalt. Operator, Dr. L. A. Merillat, of Chicago. Roan light draught gelding, aged, badly stringhalted in both hind-legs. Secured in stocks and peroneal tenotomy done by resection of a small piece of the tendon.

Case VI.—Lameness. Surgeons, Drs. Blattenburg and Armour. Bay saddle gelding, 10 years old, very lame near front. Stovained for low plantar neurectomy, trotted sound. Neurectomized by Dr. Blattenburg.

Case VII.—Lameness. Surgeons, Drs. James T. Glennon and Roscoe R. Bell. Chestnut gelding, 5 years old, lame near front. Diagnosis: Strain of the biceps muscle at the bicipital groove of the humerus. Advice, cross setons.

Case VIII.—Fistulous Withers. Operator, Dr. E. C. Beckett, of Boston. Bay mare, tandem leader, 6 years old. Pro-

cess began last fall, and after treatment the wounds healed, leaving some thickening, which has recently been enlarging. Tissues Stovained and incision made on left side. Considerable hyperplasia, but no pus formation found. Advice, removal of hypertrophied tissue and treat as for open wound.

Case IX.—Navicularthrititis and Tendonitis. Surgeons, Drs. George H. Berns and W. H. Hoskins. Brown gelding, 8 years old. Diagnosis, navicularthrititis and tendonitis. Advice, median and plantar neurectomy. Operations performed by Drs. L. A. Merrillat and J. H. Blattenburg.

Case X.—Lumbago. Surgeon, Dr. Roscoe R. Bell. Dachs-hunde dog, 5 years old, unable to stand on hind legs and very shaky on near front, temperature 103, tender on pressure over loins. Diagnosis, acute rheumatism. Treatment, anti-rheumatic liniment and salophen, gr. iiss, three times a day.

Case XI.—Bayer Operation for Quittor. Operator, Dr. W. L. Williams, Ithaca, N. Y. Bay mare, aged, quittor inside off hind coronet of long standing. Excision of the lateral cartilage by the Bayer method (described in Williams' translation of Pfeiffer's "Surgical Operations"). Performed on operating table under chloroform anæsthesia, induced by Dr. L. A. Merrillat. This was one of the best operations for demonstration before a large body of surgeons, as it was plainly visible to all, and when the laminæ had been thrown back the field could be inspected, the technique explained, and every step of the operation clearly understood.

Case XII.—Chloroform Anæsthesia. Anæsthetist, Dr. L. A. Merrillat, of Chicago. Bay mare (Case XI). Two ounces of chloroform, a sponge, and rubber sheet. Animal anæsthetized and ready for operation in four minutes.

Case XIII.—Demonstration Humane Power Float. Two gray geldings, aged. Float, operated satisfactorily by several surgeons, requiring about five minutes to properly remove sharp points, when in hands of one familiar with the instrument.

Case XIV.—Demonstration of Passing Phillips' Stomach Tube. Operators, Drs. George R. White and J. M. Phillips. Black mare, aged, successfully passed by both surgeons. Mare had very narrow head and constricted nasal chamber, causing considerable hæmorrhage from right nostril, none when passed through left nostril.

Case XV.—Imaginary Choke. Operator, Dr. J. H. Blattenburg, Lima, Ohio. Black mare (same as Case XIV). Probang was passed down œsophagus to middle of cervical region against

an imaginary obstruction, skin incised and œsophagus drawn through incision and ligated, including end of probang. Force pump was then used to force fluids against the offending body, the ligature preventing the fluid from returning outside of the probang. In this way it is hoped to dilute the obstruction and drive it into the stomach by the pressure from the fluid.

Case XVII.—Oöphorectomy. Operator, Dr. R. P. Lyman, Hartford, Conn. Pregnant cow. Operated both through flank and vagina, as a demonstration.

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THE BANQUET.

On Thursday evening the annual banquet was held in the Assembly Room of the Hollenden, and a large number of the members and ladies of their families attended, probably one hundred and seventy-five. The *menu* was excellent, though modest and devoid of wines save claret punch. The room was tastefully decorated, and a band dispensed some excellent music, which was enlivened by the interposition of several well-rendered songs by a local veterinarian.

When the plates were removed Dr. M. E. Knowles, the toast-master, introduced

Dr. J. G. Rutherford, of Canada, and asked him to speak to the toast "Veterinary Sanitary Control," but the gifted orator from across the border refused to stick to his text and talked on every subject save the one assigned to him. But into whatever field he wandered he carried his auditors with him, and his wit and wisdom won him generous applause.

Dr. W. H. Dalrymple spoke to the toast of "The Profession in the South," and on account of the great interest in the pestilence now prevailing at his home in Louisiana, and from a medical point of view in the infecting mosquito, he gave a half-hour talk on the modes of disseminating the disease and of preventing it, including the life history of the particular kind of mosquito. His discourse was very instructive and every one felt greatly enlightened upon the subject and warmly applauded the Doctor.

Dr. James L. Robertson gave some "Reminiscences of the Profession," telling of the old days when the meetings were held twice yearly, one time in New York, and then at Boston, gradually expanding until in 1884 the Association met in Cincinnati; but it was too much for the little Association, and it confined itself to the Atlantic Seaboard for the next six years, when Chicago secured the meeting, since which time it has gone to

many distant points, to meet the requirements of its great growth. What a pity that the good Doctor does not undertake the compiling of a history of the Association, or of veterinary medicine in this country. No one we know of is so capable of doing so, since he possesses both the data and the ability.

"The Field of Medicine" was a scholarly discourse by Dr. J. C. Aldrich, a member of the medical profession of Cleveland. He had prepared his address carefully, and it was greatly appreciated by all.

Then Mr. G. E. Schneider, President of the local Road Drivers' Association and a journalist of repute, paid a glowing tribute to the horse, starting from the little boy with his hobby horse and carrying him through all the stages of the pony until he reaches the fleet roadster, breaking into poetry in his enthusiasm and giving all his hearers a higher and nobler conception of the noble animal.

"Our Guests" was responded to by Dr. J. V. Newton, of Toledo, Ohio, explaining that it was his maiden effort, developed a high degree of oratorical eloquence as he warmed up, and by the time he had finished his journey was trotting sound and steady.

"Our Visitors" was assigned to Dr. Hoskins, and he gave great praise to the profession in the Buckeye State, showing that it was fully abreast of the times and in position to keep right in the front rank as veterinary medicine continues to advance.

"International Veterinary Medicine" was assigned to Dr. John W. Adams, but, like Dr. Rutherford, he could not be made to stick to his subject, talking on almost every theme save this one. But he was glorious in all, and paid a tribute to the sanitary medicine of the ancients, showing that Noah had taken into his stuffy, ill-ventilated ark animals of every breed, and although provided with only one window, not a single case of disease developed, not even shipping fever. A point made by the speaker in considering the immensity of the veterinary field was that every veterinarian should know something about everything, and all about something, which shows that the idea of specialization is gradually being forced upon our branch of medical science. The Doctor is a very charming after-dinner speaker, and his ready wit and fund of stories sandwiched nicely between his words of wisdom.

President-elect Lowe was properly assigned as his sentiment "The American Veterinary Medical Association," and he dealt

with his subject in serious mood, telling of its early struggles and of the victories it has gained, at the same time outlining his policies for its improvement and his plans for extending its influence.

"Veterinary Education" was to have been responded to by Dr. James Law, but in his absence Dr. A. H. Baker, of Chicago, was requested to fill his place, which he did in an acceptable manner.

"The Social Feature of the Veterinary Profession" had Dr. T. Earl Budd as its champion, but in his absence Dr. Thomas E. Smith, of New Jersey, beamed upon the diners and gave them an *impromptu* address of much mirth and full of pleasant thoughts.

When Dr. E. L. Quitman had spoken to the toast of the "Ladies," the company sang "Auld Lang Syne," and adjourned with pleasant memories of the Cleveland banquet.

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NOTES OF THE A. V. M. A. MEETING.

Annual meetings come and go; the record is the same: better than ever; Cleveland was no exception to the rule.

Two candidates for the next meeting-place have already appeared—Kansas City and Lexington, Ky.

Ohio far outdid any State that ever held within its borders the meeting of the A. V. M. A. Almost a hundred of her sons were in attendance.

The Association added the names of two distinguished veterinarians to its roll of honorary members—Drs. E. Leclainche and E. Lavalard, of France.

The practice of having the headquarters and the convention hall in close proximity has received another strong endorsement. Absentees from the sessions were the exception.

The attendance at the clinic was the best ever. We twice counted two hundred and twenty-five persons deeply interested in all that was going on.

The Hollenden was an ideal headquarters; the assembly room adequate. It seemed as though the hotel had been built for the A. V. M. A. convention, or the convention had been organized to fit the hotel.

There were seven ex-presidents of the A. V. M. A. in attendance upon the Cleveland meeting: Drs. J. L. Robertson, W. Horace Hoskins, Tait Butler, Leonard Pearson, J. F. Winchester, S. Stewart, and Roscoe R. Bell.

One hundred and thirty members were registered as being present—not so many as at St. Louis, when there were 175,—but the great side attraction of the World's Fair brought out many who otherwise would not have attended.

New Jersey sent one of the largest delegations of the Eastern States, nine being present: Wm. Herbert and J. Payne Lowe, T. Earle Budd, Werner Runge, James T. Glennon, Thomas E. Smith, E. L. Loblein, L. E. Tuttle, and Geo. B. Vleit.

Dr. Leonard Pearson was at Cleveland just long enough to read his splendid paper on the "Immunization of Cattle Against Tuberculosis," having to attend to some important matters prior to sailing for Europe on the 19th, where he will be a delegate to the International Veterinary Congress at Budapest.

Cleveland's local committee worked as one man—Cooley, Shepard, Fair, Cunningham and Eddy deserve the greatest credit for the smoothest arrangements ever put into operation. This comes largely of having men at the head who have been regular attendants at previous meetings; they know the weak points, and they obviate blunders of the past.

Six members of the class of '84 of the American Veterinary College were present, and reminiscences were the order of the day. They were Drs. J. E. Ryder, of New York; M. E. Knowles, of Montana; E. L. Loblein, of New Jersey; J. W. Sheibler, of Tennessee; F. S. Allen, of Pennsylvania, and W. G. Hollingworth, of Utica, N. Y.

President Knowles in his annual address wandered off into the realm of patriotic laudation of that honest though eccentric municipal prodigy, Mayor Tom L. Johnson, of Cleveland. The Mayor blushed under the fire of the speaker's eloquent peroration, and at its conclusion merely said that he wished he deserved it.

Dr. J. F. Winchester, who has attended meetings of the A. V. M. A. almost since the War of the Rebellion, and has occupied bachelor apartments at the various headquarter hotels, was beaming at Cleveland as he presented his bride to his old-time friends. He has lost the classic curl of his elegant mustache, but it is unlikely that the new conditions have anything to do with it.

The entertainment at Cleveland was very fine. Trolley rides, tally-ho and carriages, a chartered steamer, receptions, shopping excursions, card parties, etc., occupied all the time of the ladies and children, and all that could be spared by the delegates. The sail on the *City of Erie* on Thursday afternoon was grand,

and much good was accomplished through the organization of the Association of Faculties and Examining Boards.

The Committee on Intelligence and Education recommended that, as there seemed to be an undercurrent of desire for a mutual aid association, and it having been shown to be not feasible, it would be advantageous for the Association to have appointed a committee to confer with some of the accident insurance companies with the object of securing better rates for members of the American Veterinary Medical Association.

It was suggested by an enthusiastic reader of this journal at Cleveland that there should be an addition to the By-laws of the A. V. M. A., that "any member who fails to regularly read the REVIEW shall be found guilty of a breach of the Code of Ethics and shall be deemed an unworthy member," etc. So many kind words were said for the REVIEW at Cleveland, both on and off the platform, that we returned to our work with renewed energy.

New York was rather light in its representation. There were three from Manhattan (James L. Robertson, J. E. Ryder, and H. D. Gill), two from Brooklyn (George H. Berns and Roscoe R. Bell), three from Ithaca (James Law, W. L. Williams, and S. H. Burnett), C. R. Perkins, of Warsaw; W. L. Baker, and John P. O'Leary, of Buffalo; W. G. Hollingworth, of Utica; Dr. Weber, of Rochester; G. C. Kesler, of Holly; and several others.

The local committee displayed much taste in the selection of badges for the officers, members and visitors, they being quite similar to the beautiful ones furnished at Ottawa, with the addition of a surmounting ornament for the pin, which permitted the badge to hang loosely. This was *not* an improvement, as it prevents the ladies who received them at Cleveland and those who fall heir to them on the return of father, husband, or brother, from wearing them as ornamental pins. Many of the ladies at the Cleveland meeting were adorned by the badges supplied at the Canadian Capital.

A telegram was sent to Dr. D. E. Salmon, who could not be present on account of important Bureau work in Chicago, expressing regret at the newspaper attacks upon him in connection with the investigations of the Department of Agriculture, and at the same time assuring him of their utmost confidence in his ability to pass through the ordeal of the strictest investigation of his career unscathed. Any one who knows the gifted

chief of the Bureau knows that no wrong can possibly attach to him where honor and integrity are concerned. His colleagues in the Association simply wished to let him know that his good name is safe in their keeping.

Dr. George R. White, of Tennessee, made an announcement of importance to those in attendance upon the clinic, during an operation for the cure of stringhalt. He warned the surgeons against undertaking similar treatment on mules, saying that he had performed peroneal tenotomy on more than twenty of the hybrids without a single recovery or marked benefit, although 90 per cent. of all horses operated upon by him made excellent recoveries. He did not attempt to account for the idiosyncrasy, but said he had ceased to recommend it in mules altogether. His experience with the various neurectomies in the mule was also discouraging, as degenerative processes were much more frequent and rapid than in the soliped.

Parke, Davis & Co., of Detroit, tendered an invitation to the members to visit their extensive laboratories at the close of the meeting on Friday afternoon, and about forty availed themselves of the courtesy, staterooms being provided for them on the steamer which regularly plies between Cleveland and Detroit. Upon arrival at the latter city the guests were taken in automobiles to their wonderful plant, where they were conducted through the entire establishment, witnessing the modern methods of manufacturing the various pharmaceutical products. When the inspection was completed the veterinarians were given a delightful luncheon, and after some further courtesies were returned to the point of embarkation.

Dr. James Robertson, in the course of a discussion upon tetanus on Wednesday evening, narrated a case coming under his observation which demonstrated that the immunity conferred by tetanus antitoxin is of short duration. It has become the custom in some localities in Chicago to administer the serum immediately that a valuable horse receives a puncture of a foot by a nail, believing that the disease will be prevented from developing in consequence of the injection. A valuable horse gathered a penetrant nail, received an injection of the prophylactic serum, and failed to develop tetanus. In two months he "picked up" another nail, but this time did not receive the injection. He developed tetanus in a mild type, from which he recovered.

During the discussion on Dr. Merillat's paper, Dr. E. L. Quitman, of Chicago, gave out his new treatment for tetanus,

though he explained that his experience with it was so limited that he did not by any means vouch for its infallibility; in fact, he was not sure that any merit attached to it, though he had used it in four cases, all of which recovered, and the relaxation of the masseters was so prompt and decisive after its administration that the treatment had all the appearances of a valuable curative agent. The treatment consists in the subcutaneous injection of one ounce of diphtheria antitoxin daily, and in no case has recovery been delayed beyond three weeks, while the relief of the trismus follows in a few hours after the injection, the rigidity of the muscles of the posterior part of the body persisting much longer.

Several well-known faces were missed from the meeting, all of whom are in Europe, either studying or in attendance upon the International Veterinary Congress. Among them are Dr. V. A. Moore, of the New York State Veterinary College; J. W. Connaway, of the University of Missouri; Wm. Henry Kelly, of Albany, N. Y., and Adolph Eichhorn, of the Bureau of Animal Industry, Dr. Pearson remaining at Cleveland just long enough to read his paper and then hurrying to his steamer. The REVIEW had a chatty letter from Dr. Moore, dated at Hannover, Aug. 7, in which he said that he had been studying methods in veterinary education in England and Germany, and was on the eve of starting for France. He expected to go to Budapest, having received papers from Washington designating him as a delegate to the Congress. Dr. Moore said that Dr. Connaway was then at Hannover, but expected shortly to return to America. The latter has been studying in Europe for a year. The REVIEW will endeavor to secure an article from him on his impressions of matters veterinary on the Continent.

Mr. Alex. Eger, the Chicago publisher of veterinary books, presented the REVIEW with a well-preserved copy of the Constitution and By-laws of the United States Veterinary Medical Association, printed by Robert Craighead, New York, 1863, which is of course the first one published. It contains a list of the members—39 in all, with the officers for the year 1863. Seven States were represented, as follows: New York (Long Island 3) 14, New Jersey 9, Massachusetts 7, Pennsylvania 5, Ohio 1, Maine 1, Delaware 1, and one from England (John Arnold). So far as we know, there are only two of these charter members now living—Alexander Liautard (now an honorary member) and Alfred Large, at present practicing human medi-

cine at Great Barrington, Mass. The officers for that year were: President—Josiah H. Stickney, Boston. Vice-Presidents—R. H. Curtis, New York; Wm. Saunders, Massachusetts; Elias F. Ripley, Maine; R. McClure, Pennsylvania; W. A. Wisdom, Delaware; G. W. Bowler, Ohio; R. Jennings, New Jersey. Recording Secretary—Alexander Liautard, New York. Treasurer—A. S. Copeman, Utica, N. Y. Corresponding Secretaries—W. T. McCoun, New York; Rt. Wood, Lowell, Mass.; J. (should be I.) Michener, Pennsylvania; J. C. Walton, New Jersey. Censors—A. Large, New York; C. M. Wood, Boston; E. H. Palmer, Pennsylvania; E. F. Thayer, Massachusetts; Jacob Dilts, New Jersey; J. C. Essenwein, Philadelphia. Mr. Eger acquired this copy through the purchase of the library of the late Dr. J. H. Stickney, of Boston.

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

This Association convened for its twenty-second annual session in the new Laboratory Building, Veterinary Department, of the Ohio State University, Tuesday, January 17, and was called to order by President Dr. David S. White at 2.30 P. M., when the Rev. W. O. Thompson, President of the Ohio State University, in a few well-chosen remarks, gave us a hearty and cordial welcome. Dr. Walter Shaw briefly responded, then the work of the Association was taken up.

The President's annual address was a record breaker—that is, for brevity.

Next followed the reading of the minutes of the previous meeting, which with slight correction were duly approved.

Roll-call showed the following present: W. A. Axby, Harrison; J. L. Axby, Harrison; S. E. Bretz, Nevada; H. W. Brown, Columbus; O. V. Brumley, Columbus; J. H. Blattenburg, Lima; A. H. Collins, New London; G. W. Cliffe, Upper Sandusky; L. P. Cook, Cincinnati; L. W. Carl, Columbus; W. E. Clemons, Granville; E. H. Callender, Zanesville; W. R. Clark, Wauseon; J. W. Choates, Columbus; Norton Dock, Columbus; H. E. Dilatush, So. Lebanon; J. D. Fair, Berlin; H. Fulstow, Norwalk; J. E. Foster, Coshocton; C. B. Frederick, Canton; Geo. L. Frese, Toledo; J. L. Faragher, Lorain; Paul Fischer, Columbus; W. H. Gribble, Washington, C. H.; A. D. Gemmil, Celina; Frank Griffin, Columbus; W. R. Howe, Dayton; T. B. Hillock, Columbus; W. C. Holden, Delphos; N. W. Hillock, Columbus; E. R. Hinckley, Sandusky; E. O.

Hess, Elyria ; R. C. Hill, West Alexandria ; C. E. Inskeep, Urbana ; T. E. Jones, Newark ; Geo. W. Kinsey, Mt. Pleasant ; W. A. Labron, Xenia ; C. E. Leist, Columbus ; S. D. Myers, Wilmington ; H. M. Manley, Dayton ; L. H. Maynard, Columbus ; J. A. Meagher, Glendale ; Fred. Miller, Ft. Recovery ; E. L. Metzger, Clyde ; H. W. McMullen, Brookville ; J. V. Newton, Toledo ; M. C. McClain, Jeromesville ; E. L. Price, Circleville ; J. McI. Phillips, Columbus ; I. A. Ruby, Plymouth ; Walter Shaw, Dayton ; E. H. Shepard, Cleveland ; F. F. Sheets, Van Wert ; Sept. Sisson, Columbus ; L. A. Severcool, Elyria ; Z. W. Siebert, Crestline ; E. R. Stockwell, Mechanicsburg ; L. Smalley, Londenville ; W. J. Torrence, Cleveland ; W. H. Turner, Norwalk ; D. H. Udall, Columbus ; D. S. White, Columbus ; I. A. Wynn, Kenton ; W. B. Washburn, Tiffin ; W. E. Wight, Pittsburg, Pa.

This number, together with the veterinary students of the University, made an assembly any State association could be proud of.

Quite a large amount of correspondence was read ; but that relating to the American Veterinary Medical Association meeting in Ohio during the present summer, was the only matter of real importance. After the reading of letters relating to this meeting and discussion *pro* and *con*, it was duly moved, seconded and carried, that at this session we do not follow the regular order of business. As soon as this motion was disposed of it was moved, seconded and declared carried unanimously, that we invite the American Veterinary Medical Association to meet in Ohio for its next annual session. It was then duly carried, that we invite them to meet in the city of Cleveland. After this last motion had carried, Dr. Newton (who had been delayed) arrived ; and stating his regrets at being late, especially as he had literature and figures relating to Put-in-Bay as an ideal convention meeting place, away from city noise, and on a cool lake, etc., easy of access for Detroit, Toledo, Cleveland and Sandusky, from which cities clinical material could be brought by boat, hotel rates very reasonable and all the people would be quartered in one hotel. Clinics would be held in a seated amphitheatre in the open air, or under canvass. Entertainment for the ladies would be plentiful and of a most enjoyable character. Cleveland was now withdrawn, but as Dr. Shepard stated that veterinarians of Cleveland had already started to solicit funds for the entertainment of the Association and Cleveland having been once selected, members hardly knew what to do, and finally

compromised by naming both places and allowing the American Association committee to select. A committee was appointed to solicit funds and a subscription paper at once started. Motion was made, seconded and carried that this Association, independent of members' subscriptions, donate two hundred dollars to the committee on entertainment, for use, in case the American Veterinary Medical Association selects Ohio as its annual meeting place for 1905.

The Special Committee on Legislation rendered its report verbally through Dr. Blattenburg, its theme being failure to accomplish anything, except expense account and a good sized attorney bill, with the knowledge of causes that led to failure, which in itself he thought would be valuable on another trial.

The Committee on Veterinary Progress, composed of Drs. Sisson, Sheets and Shaw, next rendered their report. The Chairman, Prof. Sisson, reporting on veterinary literature that had appeared during the year, and Dr. Sheets reporting on therapeutics and preventive medicine.

DR. SISSON'S REPORT ON VETERINARY LITERATURE.

"The following is a partial list of the principal veterinary works in English, German and French which have appeared during the past year:

"(1) *Anatomy of the Horse* (J. McFadyean).—This is a second edition of Prof. McFadyean's well-known dissection guide. There has been practically no change in the subject matter, but a few illustrations, chiefly from Ellenberger and Baum's text-book, have been added.

"(2) *Comparative Anatomy of the Domesticated Animals* (Chauveau).—A new edition (the 5th, French) of this well-known work, with the collaboration of Arloing and Lesbre. Just issued and copy has not yet arrived; hence I cannot offer a review at this time.

"(3) *Text-book of General Pathology for Veterinarians and Students* (Prof. Dr. Th. Kitt).—The only thoroughly scientific and up-to-date work of the kind in existence, furnishing a synoptical statement of modern conceptions of disease processes. Contents: Introduction defining the scope and method of the subject; a brief historical review; congenital and inherited diseases; course and termination of diseases; circulatory disturbances; metabolic disorders; regressive and necrotic processes; reparative and neoplastic changes; functional disorders. It is much to be regretted that we have no

work of this kind in English, since it cannot be denied that a fair knowledge of general pathology is prerequisite to an understanding of clinical medicine and surgery. Without it the clinician is simply groping in the dark much of the time.

"(5) *Handbook of Meat Inspection* (Dr. R. Ostertag; translation by Dr. E. V. Wilcox).—This is the first English translation of the recent fourth German edition of Ostertag's work, the most extensive and authoritative on the subject in any language. While written primarily for inspectors, it must be remembered that meat inspection consists for the most part of applications of pathological anatomy, and as such a work of this kind necessarily contains very much of general interest. Thus 150 pages are devoted to invasion by animal parasites and somewhat more space to infection by plant parasites. The general practitioner is often called upon to supply expert information in sanitary matters and is sometimes thereby placed in a rather embarrassing position, as these inquiries often involve matters not touched upon in the lectures of the curriculum a decade ago. Doubtless many of you have found yourselves in a somewhat unpleasant predicament in such cases and could find no authoritative information to relieve the situation. This gap in our bibliography is now filled.

"(6) *Outlines of Meat Inspection* (R. Ostertag. 7th Ed.).—An excellent compendium, showing the master hand of the great hygienist in the concise treatment and clear arrangement of material carefully selected. One might indeed desire somewhat further treatment of some differential anatomical features. If well translated, edited with judgment, and amplified in some directions, it would fill a serious gap in our list of text-books. It is very well illustrated.

"(7) *Text-book of Special Pathology and Therapeutics of the Domestic Animals* (Friedberger and Fröhner, 6th Ed., 2 Vols.).—This work is already too well known to require any extended statement. It has been for years the standard authority on the theory and practice of veterinary medicine in Europe and will soon be available to those who can read English only. It was a serious misfortune that its introduction to American readers was through a wretched translation of the somewhat antiquated French edition. Fortunately we have now Captain Hayes' excellent authorized translation of that part which treats of the 'Infectious Diseases' and are promised the remainder shortly.

"(8) *The Diseases of the Ox* (2d Ed. 637 pp. Prof. Dr.

Dieckerhoff, one of the greatest veterinary clinicians of recent days.)—Contents: General diagnosis with special attention to anatomical and physiological peculiarities. Classification of diseases: (a) Infections and intoxications; (b) parasitic diseases; (c) general nutritive diseases; (d) organic diseases.

"(9) *The Common Colics of the Horse* (H. Caulton Reeks, F. R. C. V. S.).—It is a source of great satisfaction when a busy practitioner who also is a careful observer, finds time to record cases and publish the results of his observations. In doing this Mr. Reeks has made a valuable addition to our clinical literature, and his work should find a place in the library of every progressive veterinarian. Without wishing at all to detract from the merits of the work, a few minor criticisms may be permissible. It does not seem likely that general agreement would be found in this country with his view that œsophageal intubation in gastric tympany is hardly likely to come into general use. Nor would most practitioners here indorse the use in such cases of eserine in large doses. Some of the anatomical statements do not agree with the reviewer's observations, and the figure of the stomach on page 12 cannot be considered satisfactory. The statement that 'it may be taken as a rule that in any case where the pelvis contains other bowels than the last portion of the rectum the practitioner has a case of a dangerous nature to deal with,' is surely to say the least a misleading one; since it would be rare to find the rectum or bladder sufficiently distended to exclude both pelvic flexure and small colon. But the work deserves careful reading and justice cannot be done it in a brief review.

"(10) *Text-book of Materia Medica for Veterinarians and Students*, 6th Ed. (Prof. Dr. E. Fröhner).—Probably no one knows better than Prof. Fröhner how to write a text-book for students. In this new edition we have further proof of his skill in the fact that he has been able to reduce the work by nearly 100 pp. without material loss in its contents. At the same time he has carefully sifted the numerous new remedies and has included only those of real value—a very genuine service to the busy practitioner.

"(11) *Diagnosis of the External Diseases of the Domestic Animals*, 4th Ed. (Prof. Dr. H. Moller).—Now ten years since the third edition was published. Contents: Description of handling of animals in diagnosis; diagnostic methods—inspection, palpation, auscultation, smell. Clinical aspects of inflammation—wounds, ulcers, fever. Then follows a brief *résumé* of

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the symptoms of the diseases of various regions, special attention being paid to those of the limbs, which produce lameness. This latter section is the most interesting part of the book and is of great value to the young practitioner in a field which offers so many difficulties in diagnosis.

"(12) *Handbook of Veterinary Surgery and Obstetrics*. Edited by Bayer and Fröhner. In this international series have appeared: 1. Diseases of the foot (exclusive of pododermatitis, diseases of the cartilages, and canker). A. Lungwitz. Contents: Anatomo-physiological considerations; hoof mechanism; forms and causes of ring formation; object and effect of shoeing; the results of open and closed shoes, especially the latter; relation of weight of shoe to movement; deformities. Uses of protective applications—solutions of continuity. 2. Diseases of the foot of the horse (except those of the hoof). Prof. Dr. Eberlein. This treats particularly of pododermatitis, including calk injuries, nail wounds, burning, frost-bite, balling, stone bruises, abscess, fistula, prolapse, neoplasms, etc. It would seem that the author has laid himself open to the criticism of unnecessary repetition of pathological changes and symptoms, yet it must be admitted that his treatment of the various topics is very thorough and on the whole clear and accurate.

"(13) *Operative Course for Veterinarians and Students* (Dr. W. Pfeiffer.) Third Edition.—This new and enlarged edition of Pfeiffer's useful little work will be welcomed by practitioners as well as students, since it is an excellent epitome of the more common surgical operations. It is especially instructive in regard to neurectomies and cryptorchid castration and is well illustrated. It is known chiefly by Dr. Williams' translation in this country.

"(14) *Surgical Operative Technique for Veterinarians and Students* (Dr. O. Röder).—A useful compendium of operative surgery, written in concise style, giving briefly the necessary anatomical facts and instructions for performing the usual operations. Contains many practical hints gained from the author's long experience.

"It would be an unpardonable omission to neglect to mention the excellent publications of the Bureau of Animal Industry, which are a distinct credit to the Bureau and the profession.

"It is gratifying to record that such progress has been made in a literary way that our book shelves may now contain most of the information desired in English. It may, however, not

be out of place to indicate some gaps still unfilled. The most evident are: 1, A text-book of general pathology; 2, a work on obstetrics—of the animals other than the cow; 3, a text-book of anatomy—descriptive and surgical, amply illustrated. (Remark, Ellenberger and Batm's atlas promised.) 4, a text-book of general surgery; 5, a text-book of diseases of the foot; 6, a text-book of meat inspection—for the use of students—*e. g.*, like Ostertag's abridged."

DR. F. F. SHEETS' REPORT ON THERAPEUTICS AND PREVENTIVE MEDICINE.

"Pursuant with the request of the Chairman of your Committee on Veterinary Progress, Dr. Sisson, that I take that portion of the report embraced under therapeutics and preventive medicine, I submit what I realize should be prepared with more thought and research than I have been able to devote to this very important part of the Association work.

"To the profession, progress occurs as a most significant term, not because it is symbolic of achievements accomplished, nor because we are in a field yielding abundantly for the labor of trained and researchful minds, but there is a most apparent need of acceleration in rate of general progression, in bacteriology, in therapeutics, in fact in all branches of professional ethics and requirements.

"When the realization of this fact becomes general among the profession, this clamor for military, civil and social recognition will cease, as do all movements for which no need exists.

"As it no doubt occurs to the average practitioner, serum-therapy, while it has a field, no doubt, beyond present comprehension, appears to justify our attention rather as a prophylactic agent than because of what we can accomplish in the presence of established disease.

"As a diagnostic agent, popular recognition is accorded in those dormant and stealthy diseases whose attack could otherwise be revealed with difficulty or not at all. Prof. Nocard has expressed his belief in the potency of repeated malleinations as an agent towards resolution in combatting glanders. His first demonstration occurred in 1897. Later he experimented with four cases, allowing three to live four years and another three, in each case repeating the treatment during those periods from four to twelve times. When animals were killed no virulency of lesions could be demonstrated either by microscope, by culture method in special media, or by inoculation by approved

methods of the peritoneum of guinea-pigs, thus proving to Nocard's satisfaction the possibility of recovery. Dr. Olof Schwarzkopf, veterinarian of the U. S. Army in the Philippines, reports on sixty-seven cases, I believe, which reacted in the initial diagnostic injection in 1901 and 1902. These animals were subjected to the so-called "Nocard Treatment." Thirteen with symptoms subsequently fully developed of either glanderous or farcy character were later destroyed from that total originally infected. Fifty-four were returned to their respective troops in apparent health and all remaining so with a single exception, which succumbed later to the disease. Dr. Schwarzkopf, who would seem to be a competent man, says in speaking of men who are careful and thoughtful in this kind of work, 'surely for such men a glanderous outbreak has little of its former terrors left.' So much for glanders, and yet withal not sufficient for any single purpose except to stimulate additional resource.

"From the Continent comes a theory of tubercular immunization of cattle by injection of dry culture of human tuberculosis diluted in a physiological solution of sodium chloride into jugular vein, the treatment to be an attenuated one. Such a possibility would seem to necessitate the successful contradiction of Koch's theory as to the possibility of the communication of the infection between man and animal. However, that idea would have never gained consideration from men of science had it not originated from so eminent a man. Thus far the 'Bang System' seems to have met with popular acceptance for the practical eradication of the disease.

"Again, we seem to be face to face with tetanus and caught again with our armament rusty and so nearly useless that we realize the importance of research, which we hope may develop something that can prove at least some of the potencies of what has been claimed for the myriads of therapeutic agents which have been administered heretofore. Nor would we deny the prophylactic character for what we already have, but in practical use some of us are speculating as to whether the requisite amount of care is exercised in the preparation of tetanic antitoxin or why it occurs that we find its action so inconsistent.

"A recent London veterinary periodical chronicles the return of Dr. Koch from labors in South Africa, by which he claims to have produced a serum, which combined with virulent lymph acts as a really effective vaccine to be used in combatting that disease we vaguely recall as South African horse disease.

"Among those things which have attracted attention is the

continued success of the oxygen treatment in parturient paresis; some form of this treatment has come into general use. Some appropriating what might be called a normal solution of oxygen obtained through a colored bottle and injected into mammary gland by means of a bulb syringe. Many find this simpler process of inflation for obvious reasons quite as satisfactory. It has been suggested that there is an analogy existing in the pathological condition of this toxic condition and that claimed to occur in azoturia, thus giving rise to the hope that additional progression may be accomplished in the profession with that disease.

"As for the subject of dietetics, as it might be treated by this committee in a general way, the experiments with the use of molasses and blood-meal or in some cases a combination of the two are at least productive of very favorable reports, but the preparation of much of this character of food stuff has drifted into proprietary provinces. Indeed, there is an English firm who exhibited 'before and after' photographs showing the reconstruction taking place in a debilitated London cart horse. A sort of sanitarium is conducted in London for this purpose.

"The promotion of the sale of a tube of some special design has recently revised at least a proprietary interest in œsophageal intubation. The promoters originally claimed initiatory honors in the use of this means of gastric irrigation. However, one of our associates has clearly proven priority in the use of the tube for such purposes and we are hoping Dr. Gribble will demonstrate its introduction at our clinic."

REPORT OF COMMITTEE ON DISEASES.

The Committee on Veterinary Diseases, composed of Drs. Fischer, Myers and Ruby, rendered their report through their Chairman, Dr. Fischer. This report was largely in the form of charts, which were illustrated and explained by means of a stereopticon, and has been published as a State document.

THE REPORT OF THE COMMITTEE ON CLINICS AND ARRANGEMENTS

was rendered verbally by Dr. Brumley, who stated that plenty of clinical material was on hand and that a banquet had been arranged for, and requested all who intended to partake of this latter to subscribe their names; only one or two of those present failed to do this.

REPORT OF THE SECRETARY.

The Secretary next read his report of work done during the year, as follows:

"Mr President and Fellow-members:

"The year just passed has been a very busy one, in so far as the duties of Secretary of this Association is concerned; in fact, many times more than any previous year since we have had the honor of holding this office. When we tell you that the Secretary has sent 1,480 letters since our last meeting, you will have some idea of what this work was; we admit some was assumed without actual authority of the Association, but which we thought would be to its benefit.

"The expenses for the year have been on somewhat the same ratio, for where usually these have been from \$35 to \$40 per year, the past year they were over \$250, but all readily accounted for.

"At your last session you ordered a donation of \$15 to the Nocard Memorial Fund. The same was forwarded and the receipt is in our hands. You also ordered the Constitution and By-laws re-codified and 500 copies printed and each member to be mailed a copy. That this was done, you all know, and have most likely carefully examined your copy. For the printing of these By-laws we solicited bids; and they were printed at a price which, with the cost of all correspondence and distribution added, was less than four cents a copy. While they have some minor faults, one thing you will all appreciate, and which to bring about caused us plenty of correspondence, is the fact that all subjects of like nature come under the same head, that no page must be turned to finish any article and that no section is split and put parts on different pages. When writing and placing the matter for each separate page we fully expected the Constitution to have been printed in larger type than the By-laws; this explains why those pages do not seem full. You also appointed a committee and ordered attempted legislation; and by special resolution added your Secretary to this committee and made him secretary of it. Through some oversight this fact seems to have been forgotten, and your Secretary did not know where, or when, the committee met, until notified of its expense account; so as Secretary of the Committee on Legislation we have no report to offer; simply call your attention to our part of the work. (1st) Every veterinarian we had the address of (graduate or non-graduate), was mailed a copy of the

proposed law, and he was requested to assist in its passage. Immediately we were swamped with letters, protests against the law, the principal being the date of its going into effect. The Chairman of your committee was notified and at a later meeting they changed this date and then notified us of the change. This again necessitated our writing to tell of the change, to be followed by another batch of explanations. This correspondence, with such a great number of Ohio veterinarians, with such diversified opinions of what the law should be, revealed to us that we had been a little premature and probably foolish in attempting any change in legislation without taking considerable time in advance, to educate, as it were, those interested in its passage: while as matters stood, all the work had to be done in less than two months. Men, who had they understood the proposed law, would have been favorable to it, were the hardest fighters against it, while dozens of others, yes, members of the Association, were extremely lukewarm. We must first formulate a law, take time to explain its requirements and expectations; and when so understood, it will not be necessary to coax, or cajole, those interested to work for its passage. Let us hope that the \$150 added to our expense account, was not spent in vain; even though our proposed law died in committee. While the work on this law was going on, we took the liberty of writing to veterinarians, not members of this Association, soliciting funds to meet expenses. One reason for doing this, was to ascertain how much interest veterinary surgeons of Ohio (outside the Association) had in the matter, and this can usually be measured financially. Of 116 letters written we received a goodly number of replies, mostly containing *advice* but in only *four* was there any of the required ammunition, and that in all amounted to \$10. Gentlemen, I ask you, does that look like passing a law; does it look as if they wished one? As soon as this proposed law was defeated, and looking into the future, we decided that if all eligible veterinarians of Ohio would comply with the present law and obtain a State certificate, we would have that many more favorable fighters in the field next time; so we wrote to all eligible, whose names we could find, soliciting them to appear before the State Board of Veterinary Examiners and present their credentials or be examined. We may be allowed some pardonable pride in the result, as it was a success. Some ill-feeling was shown at this meeting, because the examiners would not accept diplomas granted since a certain date; and some veterinarians having such diplomas refused

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to comply with an examination. Without argument as to the Board's action, we submit to you a list of the questions asked at this particular examination, and ask you is it possible *any graduate* could be fearful of the result: *State Board Examination, April 12, 1904.* 1. Describe the stomach of the ox. 2. Give the dose, horse and cow, and use of the following drugs: Opium, morphine, aloes, strychnine (subcutaneously), carbolic acid (crystals). 3. Give the chemical formulæ for hydrochloric acid, water, saltpetre, silver nitrate, and common salt. 4. Differentiate between (a) a vesicle, (b) pustule, (c) abscess, (d) hæmatoma, (e) tumor. 5. Give the cause, symptoms, and treatment of hæmoglobinuria in the horse. 6. What is the object of respiration? 7. Give the symptoms of rabies in the horse, ox, and dog. 8. Describe the stages of croupous (fibrinous, lobar) pneumonia in the horse. 9. Give the relationship between the cattle tick (*Boöphilus bovis*) and the disease Texas fever. 10. Give in detail the operation to reduce a ventral hernia in a colt.

"The American Veterinary Medical Association has not as yet decided upon a meeting place for August, 1905; and we have reason to believe that Ohio would be an acceptable State in which to meet. Let us invite them to some of our cities, and not be afraid because of expensive entertainments previously seen. If our invitation be accepted, let us give them the pleasure of a scientific, professional meeting; and don't let us invite them to cross the continent for a theatre party or a boat ride, so that when they leave us they will say, 'we had a devil of a good time;' but rather, 'we have learned many things at this session that will be of benefit to us in our chosen profession.'

"We would call your attention to another matter; probably some one will say, 'it's none of your business.' In the annual catalogue of a firm who proudly boast that they are 'the oldest veterinary surgical instrument house in the West,' and who cater for your patronage by stating that 'our stock is by far the largest and best assorted in the country,' you can find considerable else to interest you. You open the front cover and there staring you in the face is 'take off your hat to a most remarkable medicine, its year of jubilee has come; it soaks down through the muscles and cures the hurts of anything that walks.' You open the back cover and there 'save your cows,' it goes to the root of the trouble and cures abortion, barrenness, scours, removes retained after-birth and caked udder, etc. You notice a bright yellow display page and, lo, your fortune's made;

you can buy a remedy 'that is a quick and sure cure for all cuts, abrasions and old sores; will heal a cut quicker than anything else, *hairs the skin out* and leaves no scar; while it will arrest the development of spavins, ring bones, curbs and thoroughpins,' and the same firm (wonders never cease) will sell you 'the only remedy that cures colic and leaves no inflammation; and is guaranteed to cure.' Turn the page and read 'ye choicest product of ye olden time, good for man' and beast, and see also an 'infallible cure for all ordinary horse afflictions; absolutely removes curbs, splints, spavins, wind puffs; \$1.00 per package;' see the salve 'that cures scratches, galls, sores, bruises, cuts, and has been in use by veterinary surgeons for twenty-five years;' pass on to the great Eastern remedy that 'kills a spavin, curb or splint, and relieves stiff joints and sore tendons immediately,' then comes that remarkable oil that 'has been in use for half a century and never failed to give relief.' We have dog remedies and hog remedies, balsams and stock foods without number, etc.; but to cap the climax is a letter over the firm's own signature, and used as part of one of these advertisements admitting they solicited the advertisement for insertion in that catalogue. Gentlemen, ought we not to protest, and if no notice be taken then adopt other means: these catalogues do not go to the general public, and it is unnecessary to flaunt the red flag in our faces.

"I hope I have not tired you with my somewhat rambling report, and that our session may be an enjoyable one, so as to repay those who have striven to make it so."

"POST-MORTEM DIAGNOSIS OF RABIES."

It was proposed before the election of officers that we listen to an illustrated lecture by Dr. J. McL. Phillips, subject: "Post-Mortem Diagnosis of Rabies." This lecture was especially interesting and instructive, more so from the fact that Columbus has been lately having quite an epidemic of the disease among dogs. Not only was the post-mortem changes of the brain illustrated by lantern slides, but the cadaver itself was on hand. Dr. Phillips is an enthusiast on this subject, and, while many questions were asked, he did not tire in his efforts at answering them. We regret that his remarks were not in writing so that they could be published.

ELECTION OF OFFICERS.

Next followed the nomination and election of officers; but as there was but one nominee for each respective office, this was

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soon disposed of; and the Chair declared the following to be the officers for 1905:

President—W. E. Clemons, Granville.

Vice-President—Sept. Sisson, Columbus.

Treasurer—T. B. Hillock, Columbus.

Secretary—Wm. H. Gribble, Washington C. H.

Censor—O. V. Brumley, Columbus.

The Board of Censors is composed of Drs. O. V. Brumley, E. H. Shepard, J. D. Fair, with the President and Secretary.

A communication was read from Dr. Burneson asking to withdraw his membership, as he now resided in Illinois. Upon motion the same was granted with the request that his membership would be acceptable at any time should he again see fit to reside in Ohio.

Moved that we now adjourn to meet at the Great Southern Hotel at 8 P. M. Banquet. Carried. Met at the hotel in good time with only one or two absent. Over sixty sat down to the tables, and a most enjoyable inexpensive session was had; for session we call it, because after indulging in the several courses of good things edible, we listened to an entertaining talk by Dr. J. V. Newton, "Twenty-seven Years' Experience as a Veterinarian." Then Dr. W. J. Torrence, who never fails to interest and instruct, exhibited several novel and original ideas, accompanying each with full description of its uses, etc. Among them was a "catheter cover"—simply a piece of rubber hose of the required length and size, into which the catheter is slipped. A "common 5-cent tack puller," to be used as a wolf tooth elevator. Just "ice tongs" to attach to any place when you wish to swing a horse and cannot find a place to attach the pulley. A "hand drill" as a sinus searcher, instead of using a trephine (this surely was practical). Demonstrated the use of "raw hide thongs" as a tourniquet where it was almost impossible to make anything else stay fast. The doctor has his common cards (small) with their reverse printed same as a statement, so that he could hand a patron his card and at same time statement of account as a reminder.

This was followed by a paper from Dr. C. B. Frederick.* This led to the oft discussed topic of the symptoms of so-called colics with their numberless causes and cures; but what a pity with cures galore that so many such patients go to make fertilizer; at least mine do. Dr. J. H. Blattenburg read a paper en-

* Will be published in a later number of the REVIEW.

titled "The Original Habitat of the Horse," after which we adjourned to meet at 8 A. M. with not a dissenting voice but that our banquet session had been a practical professional success.

WEDNESDAY, JANUARY 18.

Met again at the Ohio State University. Meeting called to order by President D. S. White at 9.00 A. M.

Chair called for applications for membership and the same were prepared for the Board of Censors, and a recess taken to allow for the collection of dues and for the examination of the credentials of the applicants.

Meeting being called to order, the Secretary reported that twelve applications had been received and examined by the Board of Censors, ten of which they recommended to membership, being as follows: Geo. W. Kinsey, C. V. C., '91, Mt. Pleasant; L. Smalley, C. V. C., '89, Loudonville; W. C. Holden, N. Y. C., '80, Delphos; E. L. Price, O. V. C., '93, Circleville; E. R. Stockwell, O. V. C., '98, Mechanicsburg; W. H. Turner, O. V. C., '90, North Amherst; Norton Dock, O. S. U., '03, Columbus; E. L. Metzger, O. S. U., '01, Louisville; L. Maynard, O. S. U., '04, Columbus; M. C. McClain, O. V. C., '86, Jeromesville.

Moved and duly seconded that if there be no objections to any of the veterinarians whose names have been read, the rules be suspended and the Secretary cast the ballot of the Association for their election. Carried. Those of the newly elected members who were present each in turn made his little maiden association speech.

READING OF PAPERS.

Dr. J. D. Fair read a paper, "Practical Obstetrics.*" This was an able effort and one backed by much experience, as Dr. Fair's home is the centre of a good breeding district. This paper was not discussed as much as our *country doctors* would have liked.

"Dr. I. A. Ruby followed with a paper on "Azoturia,"* and if Dr. Ruby is not original, no one is, not in the sense that he is original in diagnosis and treatment but in the originality of his methods of description of cases, making a dry, threadbare subject one of intense interest and some amusement. Of course his subject could have been debated until now; and we rather guess it is, if two or more gather together.

* Published elsewhere in this number of the REVIEW.

Dr. W. A. Axby gave us a very scientific and scholarly essay entitled "Open Articulations,"* followed by a record of cases bearing directly on his subject. This was a paper appreciated by all; it showed the writer's knowledge of his subject, as well as his pride of preparation when giving to others a good, practical everyday treatment for a difficulty dreaded by most veterinarians. This paper was well debated, though several present objected to the use of peroxide of hydrogen, as it carried germs to all parts of a joint.

Dr. W. E. Clemons gave a little address, subject "Sterile Air for Milk Fever," and exhibited the instrument he uses, one of his own make. It is similar in construction to others, only much larger, so allows the use of so much more sterilized cotton.

Dr. H. Fulstow exhibited the photograph of a horse with large sub-maxillary tumor, and also the tumor itself. It was eight or nine inches in diameter and weighed over ten pounds, evidently an hæmatoma. Successfully removed and horse at work.

Dr. W. R. Howe made what he calls a written suggestion on "Purpura Hæmorrhagica,"* but I assure you the debate was longer than the suggestion.

This was followed by a paper of especial interest to the veterinarian located in a breeding district, especially so in these days of so-called contagious abortion, where this condition is so prevalent, viz., "Retained Placenta,"* by Dr. S. D. Myers. This paper was well debated; opinions varying greatly, as to the proper time of removal, as well as the amount of mechanical force that could safely be used.

TREASURER'S REPORT.

The Treasurer reported receipts of \$138.00, with expenses of \$253.34, leaving a balance on hand of \$360.70.

It being now long after noon, we adjourned for half an hour for lunch, to meet at the veterinary hospital for clinics.

Reconvened as per adjournment.

CLINICS.

Prof. D. H. Udall operated for poll-evil. Dr. W. R. Howe used an electro-cautery. Dr. Fulstow performed ovariectomy on a mare. Dr. W. H. Gribble demonstrated naso-gastric intubation. Dr. W. J. Torrence demonstrated the practical use of a

* Published elsewhere in this number of the REVIEW.

small drill in searching for pus in the sinuses, passing the drill in six or seven times before locating pus, and it penetrated as easily as a pin into a piece of cloth.

Different neurectomy operations as well as some minor surgery were performed and we became so interested that several missed the trains they had intended to use.

The question of a semi-annual meeting was discussed, but in view of the American Association meeting in Ohio this matter was dropped.

The newly elected officers were now seated and President Dr. W. E. Clemons appointed the following committees:

Committee on Veterinary Diseases, Paul Fischer, W. A. Axby, J. H. Blattenburg.

Committee on Veterinary Progress, F. F. Sheets, F. E. Anderson, J. V. Newton.

Committee on Arrangements, O. V. Brumley, H. W. Brown, C. E. Leist, L. W. Carl, and T. E. Jones.

After votes of thanks to those most instrumental in making this session such a success, we adjourned.

WM. H. GRIBBLE, *Secretary*.

CONNECTICUT VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting was held at Bridgeport, Tuesday, August 1st, 1905.

The clinic was held at Dr. R. D. Martin's hospital, at eleven o'clock.

The first case was an old setter dog, with a large tumefied swelling inferior and close to anus. Upon opening and exploring the enlargement a sarcomatous development of the prostate gland was discovered. The case was found to be inoperable, and the animal was destroyed.

The second case was a large gray horse with a bad case of stringhalt. Operated on by Prof. Williams, assisted by Dr. Bushnell. The seat of operation was washed, shaved, and disinfected, then anæsthetization was produced with a solution of Stovaine, after which the tendon of the peroneus muscle was severed near its union with the tendon of the extensor pedis muscle.

The third case was for median neurectomy. The horse was placed on the operating table, seat of operation washed, shaved,

disinfected, and anæsthetization produced with solution Stovaine; Prof. Williams, assisted by Dr. Loveland, operated; here Prof. Williams demonstrated his method of inserting a form of "stitch," for securing a bandage or dressing, in difficult places.

There were several more cases to be operated on, but owing to the short time left for the business meeting, after the banquet, and the members getting anxious for refreshments, it was decided to adjourn to "Steeplechase Island," where the members and their friends, numbering forty-one, enjoyed an excellent dinner.

After dinner the tables were removed, and the business meeting was called to order by the President, Dr. J. H. Gardner, at 3.45 P. M.

The following members responded to roll-call: Drs. C. L. Adams, Thomas Bland, H. E. Bates, F. F. Bushnell, H. C. Balzer, G. T. Crowley, B. K. Dow, J. L. Devereau, G. T. Elliott, J. H. Gardner, F. A. Ingram, L. B. Judson, J. H. Kelley, P. T. Keeley, R. P. Lyman, J. F. Laden, G. W. Loveland, R. D. Martin, G. F. McGuire, G. H. Parkinson, E. C. Ross, J. S. Schofield, H. L. Tower, J. E. Underhill, H. Whitney, C. R. Witte, A. C. Knapp, W. J. Southey. Dr. Wm. Herbert Lowe, Secretary Veterinary Medical Association of New Jersey; Dr. R. W. Ellis, business manager of the REVIEW, New York City; Dr. Dimock, and veterinary student Mr. Schofield, also three or four others, whose names the Secretary was unable to obtain.

Minutes of the previous meeting were read, corrected and approved. The Secretary had no report to make. The Treasurer's report was read and accepted. The Board of Censors reported favorably on the applications of Drs. W. J. Southey and A. C. Knapp, and they were elected to membership. The application for membership of Geo. R. Smith was presented, vouched for by Drs. Ross and Whitney. The application was referred to the Board of Censors, for investigation.

Under the head of new business, upon the motion of Dr. Loveland, it was voted to instruct the Secretary to incorporate the names of the members in the programme of the semi-annual meetings in the future.

Dr. Lyman, Chairman of the Committee on Legislation, reported the work which the committee had done in securing the Registration Law. The committee was tendered a rising vote of thanks for their labors. It was voted to discharge the committee and lay the report on the table.

Dr. Ingram called the members' attention to a list of veteri-

narians whose names were registered in the office of the Massachusetts Cattle Bureau, and whose certificates of the tuberculin test would be accepted by that board. Dr. Ingram stated he had applied to the Massachusetts Cattle Bureau asking them to place his name on the list of veterinarians of this State and accept his certificates of tuberculin test, but his request had been refused. He read a letter from Dr. Peters, Chief of the Bureau, giving a list of the veterinarians in Connecticut whose papers would be accepted. Considerable discussion followed Dr. Ingram's remarks. Several of the members thought the Bureau was discriminating against some of the members of the Association, others thought the Bureau did not intend to discriminate against any members of the Association, but was not posted as to all members who were qualified to make the test. Prof. Williams was asked to give his opinion on the matter. In his reply Prof. Williams said he felt sure the Massachusetts Bureau did not mean to discriminate against any veterinarian, or any members of the Connecticut Association, whom the Bureau were satisfied were thoroughly competent and reliable. He said the Chief of the Bureau must protect the interests of the Bureau, and had no better way of doing so than in being careful in designating who and who not could test cattle to be shipped into that State. He further said he believed that if any veterinarian in Connecticut who wished to have his name on the list kept by the Massachusetts Bureau would get some official in the State whom he knew to vouch for him, Dr. Peters would gladly accept his test and certificates. The matter was finally disposed of by adopting the following: *Resolved*, That the Secretary send Dr. Peters a list of members of the Association, and we, the Association, believe these members competent to perform the tuberculin test. And ask him to give this list his consideration.

The President inquired of the Chairman if the Board of Censors had completed the report on the F. G. Atwood case. Dr. Bland, Chairman of the Board, said the Board had given Dr. Atwood's petition careful consideration, and read the finding of the Board thereon. With the report the following resolution was recommended: "*Resolved*, By this Association, that the petition of Frank G. Atwood praying for a reconsideration of the vote by which he was expelled from this Association, be and the same is hereby denied." The signatures of the full Board were attached. It was voted unanimously to adopt the report and resolution of the Board of Censors, and the Secretary was directed

to send a copy of same to Dr. Atwood and one to his attorney.

It was voted to place the following names on the list of honorary membership in the Association: Dr. N. S. Mayo, Cuba; Dr. William Herbert Lowe, Paterson, N. J.; Prof. W. L. Williams, Ithaca, N. Y.; Prof. A. Liautard, Paris, France; Dr. R. W. Ellis, New York, N. Y., and Heman O. Averill, Commissioner on Domestic Animals, Washington Depot, Conn.

Voted that this Association adopt resolutions thanking Judge Walter H. Clark for his services in securing the passage of the Veterinary Bill.

Voted that the President appoint a committee of three, to draft suitable resolutions on the death of Dr. N. Tibbals, a former member, and report at the next meeting. President Gardner appointed Drs. Whitney, Ross, and Bland.

A vote of thanks was tendered Drs. Lowe, Ellis, Williams and Martin for their assistance in making the meeting a success.

At six o'clock it was voted to adjourn to Dr. Martin's Hospital, where Dr. Ellis, at the special request of Dr. Martin, demonstrated his Twentieth Century Dental Float.

B. K. Dow, *Secretary*.

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

The fourteenth annual meeting of this Society will take place at Ithaca, September 12, 13, and 14, and the following splendid programme has been furnished by Dr. S. H. Burnett, who is acting for Secretary Wm. Henry Kelly, now in Europe:

FIRST DAY—TUESDAY, SEPTEMBER 12TH.

- 9.00–10.45 A. M. Clinic in the operating room.
- 11.00 A. M. Business session in the amphitheatre.
- 2.00 P. M. Clinic in the operating room.
- 7.30 P. M. Literary programme in the amphitheatre.

SECOND DAY—WEDNESDAY, SEPTEMBER 13TH.

- 9.00 A. M. Literary programme continued.
- 2.00 P. M. Literary programme continued.
- 7.30–10.00 P. M. Informal reception at the Veterinary College. Inspection of laboratories and exhibition of specimens.

THIRD DAY—THURSDAY, SEPTEMBER 14TH.

- 9.00 A. M. Clinic in the operating room.
- 2.00 P. M. Visit to the University Campus and buildings.

PAPERS AND DISCUSSIONS.

- "Glanders and Mallein," H. D. Gill, New York City.
 "Experiments with Mallein," E. B. Ackerman, Brooklyn.
 "Dr. von Behring's Bovovaccine as an Immunizing Virus,"
 Claude D. Morris, Binghamton.
 "The Negri Bodies and the Diagnosis of Rabies," Cassius
 Way, Ithaca.
 "Empyema of the Facial Sinuses of the Horse," W. L. Wil-
 liams, Ithaca.
 "The Action of Chloroform on the Respiratory Tract of the
 Horse," P. J. Axtell and N. D. Backus.
 "A Simple Operation in Minor Surgery," W. B. Switzer.
 "A Case of Dystokia in a Cow—Monstrosity," Frank J.
 Baker.
 "A Horse with Fractured Skull with Paralysis of Muscles
 of Deglutition," R. C. Reed.
 "Glycogen in the Muscle of the Horse," S. H. Gage, Ithaca.
 "Arecoline Hydrobromate," Howard J. Milks.
 "A Case of Myxedema in a Dog," R. C. Reed.
 "Examination of Horses for Soundness," J. E. Ryder, New
 York City.
 "Hydrothorax—Case Report," Roscoe R. Bell, Brooklyn.
 "Urethral Calculus—Case Report," P. A. Fish, Ithaca.
 "Clinical Examination of the Blood of the Cow," M. C.
 Thompson and W. W. Dimock.
 "The Dental Formula of the Horse," G. S. Hopkins, Ithaca.
 "Clinical Examination of the Blood in Veterinary Prac-
 tice," S. H. Burnett, Ithaca.
 "A Study of the Bursæ of the Posterior Limb of the Horse,"
 R. W. Gannett.
 Subject not yet announced, James Law, Ithaca.

CLINICS.

Clinics will be held on the morning and afternoon of the first and the forenoon of the third days. The exact character of the cases cannot be announced at this date; but surgical operations under anæsthesia will constitute a prominent feature. The reputation of the Society for excellence of clinic will be maintained. There will be plenty of interesting cases for operation and an abundance of competent operators.

HEADQUARTERS.

Sheldon Court, at Heustis Street entrance to the Campus.
 The Cayuga Heights *via* Campus Street cars pass this building.

Meals may be obtained near Sheldon Court. A number of student lodging houses will receive members of the Society for lodging. Meals may be obtained nearby.

The REVIEW is requested by Dr. W. L. Williams, who is in charge of the clinic, to invite and urge all veterinarians not too distant from Ithaca to contribute interesting cases to the clinic. If they will communicate with Dr. Williams he will aid in transportation and other essentials.

CORRESPONDENCE.

NO MAL DU COIT IN MONTANA—A CORRECTION.

HELENA MONTANA, Aug. 24, 1905

Editors American Veterinary Review:

DEAR SIRs:—On page 457 of the August REVIEW, there appears a statement said to be from a telegram dated Lethbridge, N. W. T., stating that mal du coit was imported into Canada by a stallion brought from Montana. Will you do me the kindness to correct this statement? I am in a position to authoritatively say that we have never had mal du coit in Montana; therefore, it would have been impossible for the Canadian North West to have gotten the disease from our State.

Very truly yours,

M. E. KNOWLES,

State Veterinarian.

DR. RAMACCIOTTI SHOWS HIS APPRECIATION OF FRATERNAL COURTESIES IN HIS RECENT AFFLICTION.

OMAHA, NEB., Aug. 29, 1905.

Editors American Veterinary Review:

DEAR SIRs:—Permit me through the columns of the REVIEW to express my heartfelt thanks to the members of the Missouri Valley Veterinary Association who so graciously remembered me during the meeting held in Omaha in June, by calling to inquire concerning my health and offer words of cheer, and who so generously gave me a beautiful gold headed cane. The daily use of this valuable present serves to constantly remind me of the fraternal goodfellowship which prevails among the members of the Association; it continually deepens my appreciation of their thoughtfulness and increases my obligation to them one and all. Respectfully yours,

H. L. RAMACCIOTTI.

NEWS AND ITEMS.

TREATMENT OF THE OSTRICH.—Dr. J. A. Edmons, veterinarian to the South Pasadena Ostrich Farm, lately treated an ostrich for hydrothorax by performing paracentesis thoracis and drawing off several pints of fluid. The bird made a nice recovery. When it becomes necessary to give an ostrich a cathartic, the doctor administers two ounces of aloes and a drachm of calomel. He has tried eserine without perceptible effect, notwithstanding he has given as high as five grains in a few hours' time.—(*Western Veterinarian*.)

DR. W. A. CONNOLY, of 1125 South San Pedro Street, Los Angeles, Cal., has recently completed and occupied a new and complete infirmary. It is two stories high and has a frontage of 50 feet; it contains 11 box stalls and 6 singles, besides a colic stall 18 feet square; a fine operating room fitted with the latest pattern of table and lighted by both side and sky lights; a fine large office and pharmacy, a commodious bedroom for the night man, besides bathroom, toilet, and large harness room. It is floored throughout with cement except in the box stalls, the floor of the single stalls being covered with removable plank sections which enable flushing of the cement beneath, insuring a sanitary place in every particular.

DR. SALMON BLAMELESS.—The following special dispatch from the regular Washington bureau of the New York *Herald*, published in its issue of Aug. 31, will be no surprise to the profession: "Dr. D. E. Salmon, chief of the Bureau of Animal Industry of the Department of Agriculture, has been exonerated by Secretary Wilson in connection with charges that he was in partnership with George E. Howard, a Washington printer, who furnishes by contract the government labels used in the inspection of meat. The man who investigated the charges reported that Mr. Howard paid notes to Dr. Salmon from profits which Mr. Howard received from the label company, which was organized on the strength of contracts obtained from the Bureau of Animal Industry. It is also announced that the charge that in his administration of the meat inspection service Dr. Salmon favored the packing houses of the Beef Trust as against those of independent packers has been officially investigated. The inquiry has been in charge of G. P. McCabe, solicitor of the Department of Agriculture, who has been nearly a month at work on the report, which caused Secretary Wilson to make public this official comment to-day:—'Inquiry discloses

the fact that Dr. Salmon had an unfortunate connection with the firm of George E. Howard & Co. While this connection was not an ideal relation for a government officer to have with a firm doing business with the department, I am convinced that Dr. Salmon never intended to profit by work done by Mr. Howard for the Department of Agriculture, and that he has never been connected with the Howard Label Company or received any benefit from the contract of that company with the department. The action of the department regarding the meat inspection service was as fair, considerate and comprehensive as the appearance would warrant. The case does not seem to call for further disciplinary action.' Solicitor McCabe's report details a partnership formed in 1895 between Mr. Howard and Dr. Salmon, under the name of George E. Howard & Co., to publish a poultry paper and to engage in a job printing business. Dr. Salmon put in \$800 and Mr. Howard contributed the paper. Mr. McCabe says the partnership expired in December, 1900, but was not formally dissolved until July, 1901. Mr. Howard gave Dr. Salmon two promissory notes, one of \$11,545.46 for his interest in the business, and another for \$11,934.83 in payment of advances made by Dr. Salmon. On the first note payments were made extending over nearly three years until, on August 10, 1903, Mr. Howard paid to Dr. Salmon \$17,787.64 for the final payment on both notes. Mr. McCabe reports that Mr. Howard, in June, 1902, obtained the contract for meat inspection labels of the Bureau of Animal Industry and supplied many millions of them at \$1 a thousand, which price was subsequently reduced to eighty cents, and then to sixty-five cents. 'An exhaustive examination of the check books, deposit slips, the books of the directors and stockholders and a large proportion of the original stock certificates,' the report says, 'fails to show that Dr. Salmon now holds, or ever has held, any stock, either directly or indirectly, in the Howard Label Company, or that he has benefited financially from the organization or business of the company, except as stated. Upon the books of the firm of George E. Howard & Co., under date of October 14, 1901, there appears an item of \$230 cash paid by Mr. Howard to Dr. Salmon. Neither Mr. Howard nor Dr. Salmon is able to recall the circumstances of this transaction.'"

FILLING AN ELEPHANT'S TOOTH.—Lena, biggest elephant of the Hippodrome herd, had a tooth filled yesterday afternoon, and she liked the operation no better than a human being does. She roared and bellowed until those watching thought the

building would fall down, and at intervals she sent a small army of men with hooks and ropes sprawling all over the stage of the place; but eventually a liberal dose of chloroform had its effect, and she lay comparatively quiescent until \$43 worth of gold had been pounded into defective molar. Lena is nineteen years old, eight feet tall, and weighs a trifle more than two and three-quarter tons. It required one pound of chloroform and two ounces of chloral to anaesthetize her. W. W. Powers, owner of Lena, noticed three weeks ago that there was something wrong with her. Ordinarily mild mannered, she became suddenly violent, and often put the lives of her attendants in jeopardy. Peter Barlow, an authority on elephants, found that Lena was suffering from an ulcerated tooth. She refused to take food and showed that she was enduring much pain. Dr. Martin G. Potter, of No. 138 East Twenty-fifth street, who knows all about the ailments of animals, was called into conference, and he found that Lena had an ugly and painful abscess of a tooth, due chiefly to a cavity about an inch deep. He recommended an operation, and Powers reluctantly consented. It was performed on the stage of the Hippodrome yesterday afternoon, in the presence of perhaps fifty persons, including physicians, animal trainers and newspaper men. Lena knew something painful was going to happen. She paced the stage like a human being with the toothache, tossing her trunk and letting out bellows that could be heard a block away. When Dr. Potter and his assistants went for her she fought vigorously. After a time, however, Powers and Robert Tyler, her keeper, contrived to make her lie down, and half a dozen workmen with stout ropes and pulleys fastened her to the floor. Then Dr. Potter, assisted by Dr. S. S. Field and Dr. W. E. Young, all of whom are skilled veterinarians, framed a funnel of pasteboard, covered with absorbent cotton, and through this administered the chloroform. Lena fought desperately. Although seemingly tied down securely she wriggled out of the ropes with ease and rose to her feet, carrying the physicians up with her on her back. Another half hour was needed to get her prostrate again, and then the doctors pumped the anaesthetic into her as fast as they could—so fast, indeed, that several of them were nearly overcome themselves. Dr. Potter then, with huge instruments, pounded the gold into the tooth, finishing the job in a very few minutes. Lena was a little wobbly on her feet after the operation, but seemed to be much more at ease.—(*New York Herald*, Aug. 22.)

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VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table will be found the dates, places of meeting, and Secretaries' names and addresses of all the Veterinary Medical Associations of the United States and Canada. Secretaries are requested to see that their organizations are properly included in the list.

Name of Organization.	Date of Next Meeting.	Place of Meeting	Name and Address Secretary.
American V. M. Ass'n.....	August, 1906.	.....	J. J. Repp, Phila., Pa.
Vet. Med. Ass'n of N. J.....	Jan. 11, 1906.	Trenton.	W. H. Lowe, Paterson.
Connecticut V. M. Ass'n.....	.....	.....	B. K. Dow, Willimantic.
New York S. V. M. Soc'y....	Sept. 12-13-14.	Ithaca.	W. H. Kelly, Albany, N.Y.
Schuylkill Valley V. M. A....	.....	.....	W. G. Huyett, Wernersville.
Passaic Co. V. M. Ass'n.....	Vacation.	Paterson, N.J.	H. K. Berry, Paterson, N. J.
Texas V. M. Ass'n.....	.....	Dallas.	A. E. Flowers, Dallas.
Massachusetts Vet. Ass'n....	Monthly.	Boston.	F. J. Babbitt, Lynn, Mass.
Maine Vet. Med. Ass'n.....	.....	.....	C. L. Blakely, Augusta.
Central Canada V. Ass'n.....	.....	Ottawa.	A. E. James, Ottawa.
Michigan State V. M. Ass'n....	2d Tu-Wed Feb	Lansing	Judson Black, Richmond.
Alumni Ass'n N. Y.-A. V. C....	April, 1906.	141 W. 54th St	W. C. Miller, N. Y. City.
Illinois State V. M. Ass'n....	Feb. 15, 1906.	Decatur.	W. H. Welch, Lexington, Ill
Wisconsin Soc. Vet. Grad....	Call of Pres't.	Sheboygan.	S. Beattie, Madison.
Illinois V. M. and Surg. A....	Call of Com.	Champaign.	J. M. Reed, Mattoon.
Vet. Ass'n of Manitoba.....	.....	.....	F. Torrance, Winnipeg.
North Carolina V. M. Ass'n....	.....	.....	T. B. Carroll, Wilmington.
Ontario Vet. Ass'n.....	.....	.....	C. H. Sweetapple, Toronto.
V. M. Ass'n New York Co....	1st Wed. Oct.	141 W. 54th St	D. J. Mangan, N. Y. City.
Ohio State V. M. Ass'n.....	January, 1906.	Columbus.	W. H. Gribble, Wash'n C.H.
Western Penn. V. M. Ass'n....	1st Wed. ea. mo.	Pittsburgh.	F. Weitzell, Allegheny.
Missouri Vet. Med. Ass'n.....	.....	.....	F. F. Brown, Kansas City.
Genesee Valley V. M. Ass'n....	.....	.....	J. H. Taylor, Henrietta, N.Y.
Iowa State V. M. Ass'n.....	January, 1906.	Ames.	H. C. Simpson, Denison, Ia.
Minnesota State V. M. Ass'n...	.....	.....	J. G. Annand, Minneapolis.
Pennsylvania State V. M. A....	Sept. 19.	Wilkes-Barre.	C. J. Marshall, Phila.
Keystone V. M. Ass'n.....	2d Tues. Sept.	Philadelphia.	C. J. Marshall, 2004 Pine St., Phila
Colorado State V. M. Ass'n....	1st Mon. in June	Denver.	M. J. Woodliffe, Denver.
Missouri Valley V. Ass'n.....	.....	.....	B. F. Kaupp, Kansas City.
Rhode Island V. M. Ass'n....	3d Thursday	.....	.....
North Dakota V. M. Ass'n....	June and Dec.	Providence.	T. E. Robinson, Westerly, R. I
California State V. M. Ass'n....	January, 1906.	Fargo.	E. J. Davidson, Grand Forks
Southern Auxiliary of California State V. M. Ass'n....	Mch. Je. Sep, Dec	San Francisco	P. H. Browning, San Jose.
South Dakota V. M. A.....	Jan. Apl. Jy, Oct.	Los Angeles.	H. D. Fenimore, Los Angeles
Nebraska V. M. Ass'n.....	.....	.....	E. L. Moore, Brookings.
Kansas State V. M. Ass'n....	.....	.....	A. T. Peters, Lincoln.
Ass'n Médecine Vétérinaire	.....	Topeka.	Hugh S. Maxwell, Salina.
Francaise "Laval,"	1st & 3d Thur.	Lect. R'm Laval Un'y Mon.	J. P. A. Houde, Montreal.
Alumni Association A. V. Col.	of each month.	.....	.....
Province of Quebec V. M. A....	April each yr.	New York.	F. R. Hanson, N. Y. City.
Kentucky V. M. Ass'n.....	.....	Mon. & Que.	Gustave Boyer, Rigand, P. Q.
Wolverine State V. M. Ass'n....	.....	.....	D. A. Piatt, Lexington.
Washington State Col. V. M. A.	.....	.....	W. W. Thorburn.
Ohio Valley V. M. Ass'n.....	Vacation.	Pullman, Wa.	Wm. D. Mason, Pullman.
Iowa-Nebraska V. M. Ass'n...	.....	Evansville, I'd	J. W. Moses, Mt. Vernon, Ind.
Louisiana State V. M. Ass'n...	.....	.....	A. T. Peters, Lincoln, Neb.
Essex Co. (N. J.) V. M. Ass'n	.....	.....	E. P. Flower, Baton Rouge.
			B. K. Baldwin, Newark.

PUBLISHERS' DEPARTMENT.

THE Abbott Alkaloidal Company of Chicago, with New York headquarters at No. 50 West Broadway, who withdrew their advertisement from the REVIEW for a few months while preparing for a new one, have returned this month with renewed interest in the veterinary field for their most excellent and reliable alkaloidal preparations; and occupy the old position at the top of the inside back cover-page, where they were first introduced to the veterinary profession, about five years ago. If there are any veterinarians who have not practiced "alkalometry" in the field of "dog practice," they have missed one of the best things at their command.

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The above, from the *Medical Times & Gazette*, sets one to thinking of the great array of disinfectants of commerce, that are placed upon the market, each with a claim greater than its predecessors, that is placed beneath the nose of the practitioner with the invitation for him to "smell it and be convinced"; and it is here that the practitioner must exercise care in his selection, for he can no more be convinced by what he smells than by what he reads in the claims that are made for the "new product," unless he either sees a demonstration of its work, or knows the source from which it comes to be responsible. For example, take the list advertised in the REVIEW in alphabetical order, Chloro-Naphtholeum—Creogen—Creolin—Kreso Dip—Sanitas—Zenoleum; and the standing of the manufacturer of each is sufficient guarantee to the practitioner of the reliability of the product.

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